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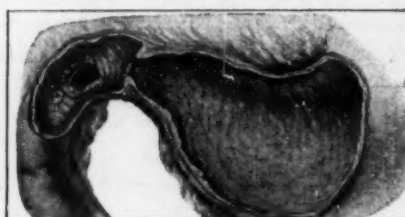
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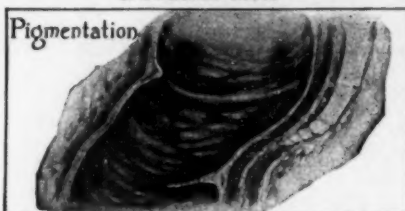


Duodenal ulcer



Pigmentation

Hemochromatosis (proctoscopic view)



Pigmentation

Hemochromatosis (rectal section)

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Nonspecific Immunization and Its Uses in Venereal Diseases

MAURICE J. LEWI, M.D.,

New York

The Underlying Principles

Nonspecific immunization as at present understood and employed, originated in critical analysis of the so-called specific method of treatment, and today this new mode of thought has found recognition in many countries so that nonspecific therapy is now acknowledged as being corrective in many pathologic conditions. In addition to a considerable number of special articles which have appeared in the medical press, an excellent book written by Wm. F. Petersen, Chicago, "Protein Therapy and Nonspecific Resistance" has been published by Macmillan. Since the publication of this book scientific research along these lines has advanced with rapid strides and causative connections have been discovered which are of great importance to the practitioner as they enable him to recognize the real mechanism of nonspecific therapy in the organism and thus makes it possible to understand the indications for this character of treatment (1).

After employing and investigating various preparations used for injection the conclusion has been reached that any substance introduced into the body, be it living or dead bacteria, animal sera, or the products of animal or plant organisms (also the organic precipitates in the body produced by metal compounds) will cause an immunization reaction against such alien substances. This reaction takes place primarily in the bone marrow which in itself represents a homogeneous system.

Based on numerous investigations, the publication of which would lead too far, we believe (2) that every typical infection is combated by the organism with independently, parenterally introduced living excitants through the special cooperation of the functions of the bone marrow system. Any stimulation of the bone marrow system will therefore bring about a certain change in the development of the infection (2).

When judging the effect of protein therapy the main issue is not, how great is the improvement, but how great is the change from the usual course of development.

These changes and the possibility of producing them at will, of regulating them, introducing them into the course of the disease—all these problems should be investigated by every possible means, in order to enable us to employ them therapeutically whenever it may seem advantageous.

Having thus determined that the myeloid (or bone marrow) system plays an important role in the healing of each case of infection, be it local or general in character, and that it is possible to stimulate the bone marrow system directly by the introduction of proteins into the organism, there remain but two more problems:

- 1) What development in the bone marrow system follows the injection of proteins, and
- 2) What preparations are useful to produce this stimulating effect on the myeloid system—in other words, what agents will give the best results?

It is impossible to answer these questions fully for they involve a complexity of scientific problems, so that only a short review can be given in these pages.

Recent investigations of E. F. Mueller (3) have shown that the stimulation which originates at the site of infection is conducted to the bone marrow system by way of the autonomic nervous system; the answer of the bone marrow system to this stimulation is the formation of new cells and the production of immunizing substances. Both the cells and the immunizing substances enter the circulatory system and as the autonomic nervous system has also produced dilatation of the vessels at the site of infection, they are deposited at the site of inflammation. In this manner only can the immunizing substances become effective in producing the desired rehabilitation.

The injection of proteins has a like effect on the bone marrow system. If the peak of therapeutic efficiency is to be obtained, the protein injection 1—must be devoid of secondary reactions, 2—must produce none but the stimulation of the myeloid system, and 3—there must be no inflammation at the site of injection. It is evi-

dent that in cases where inflammatory reactions are accidentally produced at the site of injection consequent dilatation of the vessels at this point (inflammation) presents another focus of disease (sometimes more serious than the original) which claims for its own protection part of the cells and immunizing substances resulting from the stimulative action of the protein injection and intended for the original site of infection, so that these are not wholly utilizable against the first invaders. Not only are these energies unavailable to the organism but they represent a total loss of immunizing properties, as they must be mobilized against any possible inflammation arising at the site of the injection.

Every stimulation of the myeloic system and thus every typical immunizing reaction in infectious conditions is conducted *solely* by way of the autonomic nervous system. It is readily understood that any other reactions which the therapeutic agent may produce in other organs is not only unnecessary but rather constitutes a hindrance to the final therapeutic effect.

These considerations are in themselves an answer to the question as to whether an increase in temperature is prerequisite in protein therapy. Based on articles which space will not allow us to quote in detail, we know that fever, headache, nausea, vomiting and a general feeling of being sick are produced by the toxins which are introduced into the organism under the guise of proteins. It is to these toxins that the organism seems to react more or less with the above described symptoms according to the toxicity of the substances contained in the injection fluid. In reality, as previously stated, a new focus is created which requires part of the newly formed cells and immunizing properties to overcome the secondary infection at the site of injection.

The next step therefore, is to determine what substances are afebrile and nontoxic and still have the necessary stimulative effect on the autonomic nervous system.

Research in the properties of the dried milk constituents proved to be productive of the best results as empirical investigations had already recognized their value for practical protein therapy. Experimentation along these lines determined that sterilized milk contains a varying quantity of various toxic substances which can not be eliminated by sterilization. These are:

- 1) The bodies of bacteria which were contained in the milk prior to sterilization and cannot be thus destroyed (often as many as 1,000,000 per cc).
- 2) The exotoxins of such bacteria which had been formed prior to sterilization.
- 3) The decomposition products of bacterial metabolism and of lactalbumin (typical ptomaines).

These last are the most dangerous of all (acting in the manner of botulinus toxins) and the number of them present determines the severity of the symptoms of intoxication (4).

As soon as it was possible to produce a solution of lactalbumin, which was free from these toxic products (this preparation is marketed as Aolan) the correctness of this contention was proved by experiment. If such a toxin free solution of lactalbumin is injected, certain changes indicate that a stimulation of the autonomic nervous system actually takes place. But this activity is not accompanied by fever and other local and general symptoms as is the case when the above mentioned toxins are injected.

The recognition of these facts cleared up the most important principles of nonspecific therapy which can be summarized as follows:

Every introduction of living pathogenic bacteria stimulates the myeloic (or bone marrow) system by way of the autonomic nervous system. This stimulation results in an increased production of bone marrow cells (leu-

cocytes) and of immunizing substances. Due to certain other effects of the autonomic nervous system these accumulate in the dilated vessels at the site of infection.

If these conditions obtain, or to express it clinically, if it is a case of infection, accompanied by the formation of pus, protein therapy is indicated and a correct application of the same will give satisfactory results. This treatment influences the physiologic processes and therefore represents the method of choice for combating infections.

Knowledge of the actual processes that take place in the body will not admit of the assumption that protein therapy is a cure-all and therefore its use in unsuitable cases will necessarily be coupled with disappointment. But in cases of typical infection only are thus treated, protein therapy will be found efficacious.

As the injection is to take effect on the autonomic nervous system, intravenous injection will, of course, produce a minimum result. This is even more obvious after the second injection and is probably due to the fact that the serum decomposes the injected fluid very rapidly, so that while its effectiveness decreases, the danger of anaphylaxis increases, making intravenous injection of proteins inadvisable. In subcutaneous injections the entry of the solution into the circulatory system is too rapid and is therefore ineffective for the purpose of its uses. Therefore the intramuscular is the route of choice in order intensively to stimulate the myeloic (bone marrow) system.

Extensive investigation has led to the surprising observation that *intracutaneous* injection of toxin free proteins exerts an even stronger influence on the autonomic nervous system than on the myeloic system. Intracutaneous injections directly stimulate the focus of infection, incidentally causing a dilation of the blood vessels. Therefore such intracutaneous injections of toxin free proteins are of great practical importance where a local reaction is desirable, as in affections of the joints, in gonorrhea, in pathologic conditions of the mucous membranes, etc.

The dosage depends entirely upon the method employed. Intramuscular injections require a quantity sufficiently large to stimulate the bone marrow system; if milk, or milk derivatives are to be administered, a dose of 10 cc is indicated. For intracutaneous injection 2 wheals are sufficient; if the injection is made correctly even considerable pressure will not permit more than 0.5 cc (generally 0.3 cc) to be administered to create one wheal. For intracutaneous administration only toxin free substances should be employed (5).

As venereal diseases represent the largest field in which the usefulness of nonspecific protein therapy has been demonstrated, it would be well to indicate the methods of its employment in this connection.

Non-Specific Therapy in Venereal Diseases

Nonspecific therapy of venereal diseases, first practiced by R. Mueller, Vienna (6), has since proved to be a valuable aid in the treatment of such conditions. Toxin-free milk and its derivatives are superior to all other protein substances.

The treatment of bubo, of soft chancre, of furunculosis and of abscess, provides a simple example of the worth of nonspecific therapy. These conditions supply instructive instances of a local infection accompanied by the formation of pus. In the case of chancre, injection therapy should be begun immediately; thus it will frequently be possible to prevent the development of buboes. (The normal dose of milk or of milk derivatives is 10 cc, and should be given intramuscularly). If buboes have already formed, they will clear up without suppuration if treatment is begun prior to incapsulation. Milk

injections will end all pain within a few hours. Any redness will be distinctly circumscribed. If incapsulation has already set in, it will proceed rapidly and without causing pain. In case of distinct fluctuation, the contents of the bubo should be removed by puncture so as to avoid cicatrization. No fistulas are created. Bubo which have opened spontaneously and which (due to the formation of pocktes and suppuration with resulting abscesses) have become pernicious, are also very favorably influenced by nonspecific therapy (7).

Gonorrhea in the male and female, and its complications constitute the majority of cases in which up to this writing, nonspecific treatment has been given. These cases of gonorrhea comprehend suppurative affections although the different character of the excitant and the different localization necessarily produce a different clinical picture. As there is no involvement of the lymphatics and glands, as is the case in buboes and chancre, the stimulating action of protein therapy on the involuntary (autonomic) nervous system will be less pronounced. For this reason the immunizing properties of the skin which are stimulated by protein injection play an important part in the treatment of gonorrhea.

In the absence of complications, gonorrhea of the anterior urethra is influenced but little by protein therapy. It is claimed that complications are avoided by simultaneous nonspecific therapy, but the correctness of this statement remains to be proved. If, however, the posterior portion of the urethra is involved, treatment with preparations of milk seems effective; good results are evident from the rapid clearance of the second portion of urine. Experience shows that it is advisable to give intramuscular injections of 10 cc milk or milk derivatives every 5-6 days; additional intracutaneous injections of 0.2-0.3 cc, the contents of two wheals, will greatly increase the effect (5).

The technic of intracutaneous injection must be carefully observed (it is preferably given into the extensors of the lower arm) for only intracutaneous and not subcutaneous injections will produce the desired results (8).

In periurethritis and periurethritic infiltrations, a clearing up may generally be thus obtained. In gonorrheal infiltrations success depends on the duration of the condition. Therefore, treatment should be begun as early as possible, especially if the impending danger of stricture is to be avoided, and should be continued over a sufficient period. Mechanical measures are not necessary for immunization treatment of fresh infiltrations. In chronic conditions, however, the mechanical and the counter-irritant methods of treatment will supplement each other favorably. In such cases the dosage should not exceed 10 cc of milk derivatives given at intervals of 5-6 days.

Of all further complications of gonorrhea in the male, prostatitis is the most rarely influenced by nonspecific treatment and vaccine therapy. Favorable results are generally obtained in acute parenchymatous forms of the disease; they vary, however, with the duration of the affection. Prostatitis of long standing is only improved in exceptional cases. Acute prostatitis, subjective complaints, strangury and retention of urine, respond to treatment soon after injections have been commenced. In the majority of cases the palpable swelling diminishes. The softening and the discharge of pus takes place rapidly so that local treatment may soon be begun. In particularly favorable cases a cure of simultaneous urethritis has been obtained by immunization therapy. The outstanding feature, however, is the early disappearance of the troublesome subjective affections and the possibility of cutting short the period of the disease, by the early introduction of local treatment.

The results obtained in gonorrheal epididymitis are frequently surprising. Experience has taught that in these cases *intracutaneous* injections exercise the strongest influence on the gonorrheal process. A few hours after the first injection the agonizing pain practically entirely disappears. Excretions, which suddenly ceased with the appearance of epididymitis, reappear and the swelling diminishes visibly. The final clearing up of the infiltration of the epididymis frequently requires extensive therapy but due to the cessation of pain, the patient is soon amenable to ambulant treatment. Intracutaneous and intramuscular injections should be given alternately; every three days 10 cc milk or milk derivatives should be given intramuscularly, alternating with intracutaneous treatment (2 wheals). Care must be taken that treatment is not discontinued at too early a date as remaining infiltrations may still cause relapses for as long a period as two years. Administration must be continued until the infiltrations show no more pain on pressure; then the interval between injections is increased and the dose for intramuscular injection is diminished one half (9).

Except for a few refractory cases of long standing, gonorrheal arthritis offers good prospects for nonspecific immunization. According to R. Mueller (6), who was the first to recommend this treatment in such cases, "the early cessation of pain, rapid improvement of inflammations after a short period of increased symptoms and a cure without any restriction of movement" is generally effected. 10 cc milk or milk derivatives are administered intramuscularly at intervals of 5 days. Here also the effect will be increased by the addition of intracutaneous injections. As a rule, the general condition of the patient is greatly impaired and his loss in weight is considerable; but this is no contraindication for nonspecific therapy. On the contrary, the general condition of the patient is generally much improved after the injections.

Gonorrheal affections of the conjunctiva are given a course of treatment similar to that for gonorrhea of the urethra; if protein therapy alone does not suffice, local treatment is instituted.

Gonorrhea in the female, especially gonorrheal affections of the urinary passage, of the cervix and of the adnexa offer good opportunities for this character of treatment as, due to anatomic conditions, local treatment is generally unsuccessful. Experience has shown that for treatment of gonorrhea in the female, nonspecific immunization is superior to intravenous specific vaccine therapy, there being no febrile reaction, although its results will naturally be limited by the character of the disease; all treatment should be individual. The location as well as the duration of the disease are of great importance for prognosis and early treatment is always indicated. Pain relief in diseased conditions of the adnexa of the female is not as evident as in the male, and a longer course of treatment is necessary. Nonspecific immunization is indicated in all cases of gonorrhea in the female but it must be continued for a considerable period to insure permanent results. The exact size of the dosage required cannot be stated. Milk is administered intramuscularly in doses of 10 cc. Frequently better results will be obtained with larger doses. Additional intracutaneous injections will increase the favorable effect.

Nonspecific provocation of gonorrhea in the female is of great importance for diagnostic purposes (10). Similar to the provocation treatment of the male, intracutaneous injections are given ambulatory. This therapy produces dilatation of the vessels at the site of infection and creates renewed emigration of the leucocytes to this point. For this reason the increased

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Dr. Richard Bayley of Old New York

ARTHUR C. JACOBSON, M.D.,

Brooklyn, N. Y.

Imagine the metropolis of America as a small "city" with Bowling Green as a nucleus, set on the Eastern seaboard of a new country, in a fascinating period of our history, and you will be able to picture the environment in which the subject of our sketch achieved much for medicine and left the impression of a personality which still endures.

To one knowing the life story of this interesting character, the very names of such old streets as Charlton and Barclay take on special meanings and charm, for these were the names of his first and second wives. One of our avenues and one of our hospitals have been given the name of a famous family into which his daughter Elizabeth Ann married—that of Seton. Why there is not a Bayley Street we are at a loss to conjecture.

We are not at so much of a loss, however, to account for the omission of this gentleman's name from our most outstanding work on the history of medicine. During the Revolution, Dr. Bayley served as a surgeon on a British man o'war (1776) and in Rhode Island after it had been taken by the English; later still, in 1781, he joined the British army again. We fancy that these circumstances have tempered somewhat the interest of our most distinguished historian in the career of Dr. Bayley. A mere mention of his name would leave us without much ground for complaint, but surely his complete omission is significant.

Now a close scrutiny of the aforesaid circumstances develops the fact that Bayley had gone to London in 1775 to resume the study of anatomy and pathology with William Hunter. Learning that his wife was slowly dying in New York, and being poor, he took ship as a surgeon in order to reach her bedside. Obligated to serve for a time in Rhode Island, he finally managed to sever his military connection, and reached his wife just before she died.

After the death of his wife he practised in New York, but in 1781 he was designated by a new British commander, Sir Guy Carleton, to act as surgeon to the troops. In other words, his military service with the British was dictated by necessity and peculiar circumstances.

It is to be remembered that New York was held by the British from 1776 to 1783 and that the population was either frankly committed to the British cause or under duress.

We have enshrined the memory of Zabdiel Boylston, who during the sixth epidemic of smallpox in Boston was threatened with hanging by the mob because of his numerous inoculations against the disease. Bayley we have all but forgotten, although he suffered at the hands of a mob in 1778 because of his pioneer work in morbid anatomy. This was the so-called "Doctor's Mob," which destroyed his rare collection of dissections and pathological specimens. He was alleged to be an experimenter upon the living and a despoiler of the dead. Much of this very work had to do with the pathology of croup, then prevalent with a 50 per cent mortality, in the course of which he laid the foundations upon which O'Dwyer was later to build so nobly.

Richard Bayley was born in 1745. His father was of English stock; the mother, a Lecomte of New Rochelle, was of French Huguenot descent. Dr. Bayley began the study of medicine about 1766, under Dr. Charlton of New York, whose sister Catharine became his wife. He completed his studies under William Hunter, in London, and began to practise in New York in 1772.

He became specially interested in croup practically at the beginning of his work as a physician. As early as 1774 he reached very definite conclusions regarding the pathology and proper treatment of this disease. His opinions and practice were later adopted by Michaelis and published by the latter in Richter's Surgical Repository. Michaelis was the distinguished chief of the Hessian medical staff, and his attitude toward the young practitioner reveals the true scientific spirit. The upshot of the new understanding of croup was a very notable reduction in its mortality. Bayley's personal views on "Angina Trachealis" were set forth in a letter to William Hunter, published in 1781.

In 1795, Bayley wrote a history of yellow fever in New York. In this work he clearly differentiates between contagion and infection. He proved yellow fever to be infectious, and understood thoroughly the conditions under which it thrives: rains, heat, stagnant water, filth, new-made ground, low levels, and meteorological factors like extension from the source in the direction of prevailing winds. He showed how to deal with its local origin in truly modern fashion, as by drainage and filling in. He proclaimed the disease "a murderer of our own creating." Without taking the mosquito directly into account, he none the less developed measures of defense that were effectual because they eliminated the pest.

We are chiefly indebted to Bayley for the State quarantine laws which for so long protected us against infections by way of the port of New York. Through his personal efforts he obtained the passage of these laws. Immediately after the close of the Revolution he became the Health Officer of the Port of New York, the duties of which office in those days involved general sanitary supervision of the city, and developed a Quarantine Station on Staten Island and a hospital on Bedloe's Island.

In 1782, Bayley performed an amputation of the arm at the glenoid cavity, assisted by his son-in-law, Wright Post, then a student. This was claimed to be the first instance in the United States, and among the first completely successful glenoid amputations in any country. However, the writer notes in Garrison's History of Medicine an amputation at the shoulder joint by John Warren, of Boston, in 1781.

Bayley became the first professor of anatomy at Columbia College in 1792. He also taught surgery in 1792-3 in the absence of Wright Post, husband of his eldest daughter Mary and distinguished for his subclavian, femoral, external iliac and primitive carotid ligations. But before the establishment of the medical school Bayley lectured on surgery as early as 1787, in a building afterward converted into the New York Hospital. This, in fact, was the scene of the "Doctor's Mob" already mentioned.

In association with Bard and others, Bayley founded the New York Dispensary.

Bayley was especially skilled in lithotomy and was a pioneer in this country in ophthalmic surgery, performing many cataract extractions successfully, a field later developed to an advanced point by Edward Delafield and J. K. Rodgers.

After the return of Wright Post, Bayley assumed the professorship of surgery in the college.

For his work in pathology Bayley received full credit from the French, so that we may class him as a figure of international note in his day. In the study of croup and of fevers he was very far ahead of his time.

(Concluded on page 267)

Physiotherapy in Dermatology

WALTER JAMES HIGHMAN, M.D.,

New York.

Radium V.

Introduction

The use of radium in dermatology has not yet been adequately studied. To begin with no exact knowledge exists as to the refinements of dosage, and ideas are still hazy as to the type of so-called rays to be employed for various skin lesions. In some the hard Beta rays or the soft Gamma rays are theoretically indicated, in others the hard Gamma rays. This depends upon the amount of penetration required, or in other words upon the depth of the lesion. The great theoretical question requiring an answer is whether radium is capable of effects that cannot be produced by the X-rays. At present it seems to be a fact that radium will cause the involution of certain types of vascular nevi and some warts which remain unaltered by X-rays. There seem to be no other conditions in which this holds. Nevertheless, this indicates that radium is qualitatively not identical with the X-rays so far as neoplastic or embryonal vascular tissue is concerned. Whether radium or the X-rays should be regarded as superior in the treatment of cutaneous epithelioma constitutes a point of dispute impossible of immediate settlement. Assuming that there is no essential difference between the two agents, it is certain that some lesions which might well be treated by the X-rays must be treated by radium because of questions of accessibility.

The theoretical advantages of radium as compared with the X-rays, are a possible series of still undemonstrated qualitative effects, and its utility in areas which the X-rays cannot be caused to reach. Its disadvantages are our relative ignorance of its scope, the fact that only relatively small areas are capable of treatment at one time, and the fact that each exposure with radium requires a much longer period of time than is required for the X-rays. Since technic is still so imperfect as compared with what has been evolved in the domain of the X-rays, the burden of proof lies with radium.

There is little doubt that with enough radium the time required for treatments could be cut down to figures that would challenge that required in use of the X-rays. The cost of such quantities, however, is prohibitive. Thus, the use of radium must be restricted to conditions in which all other therapy, including the X-rays, has failed; or to small lesions in which the question of time is not a matter of great moment; or to lesions in which the use of the X-rays is technically unfeasible; or to lesions in which radium furnishes the acknowledged supreme method of attack. In the first group might be included any chronic, inoperable, or otherwise intractable lesions of any origin. In the second group might be included any small lesion in which there seems to be reasonable expectancy of success. In the third group would be lesions in which there is reasonable expectancy of success and which lie at points without the range of the X-rays, such as in the buccal orifice or within the vagina, or sometimes at or near the other mucocutaneous junctions. In the fourth group may be included certain vascular warts and sebaceous cysts, under conditions which will be mentioned below.

The methods of applying radium are by means of plaques, needles, tubes or, finally, in the form of emanations. When radium is applied to the surface of a lesion it operates only in the lower hemisphere. Thus, one half

of its value is lost. For this reason, when it is feasible to do so, the value of radium is doubled and its sphere of efficacy correspondingly increased when it can be inserted into the lesion. The needles are employed for this purpose. Inasmuch as the needles can also be laid on the skin if only surface action is wished, these applicators are a more practical possession than the plaques. Tubes are not particularly adapted for skin treatment; nor are emanations, but the latter could be used for either surface application or for deeper treatment.

No matter what type of lesion is under treatment the question of filtration and distance is of considerable importance, but this importance is still only half realized, as we have no extensive figures on the optimum type of ray for the given condition. It is universally admitted that the very soft Alpha rays should not be used. They are easily eliminated by wrapping the radium in rubber tissue. Whether aluminum, silver or brass constitutes the best screen, and what thicknesses should be used, will not be discussed in this paper. Within limits, the denser the screen, or the thicker it is, the more penetrating will be the rays that traverse it. Also they will be fewer in number and perhaps will require longer exposure to produce their effect. To a large extent this is also true with reference to the distance of the radium, whether filtered or unfiltered, from the surface under treatment. Thus, separating an applicator from the skin by felt or cork or dental wax, or any other desired material, by as much as a half a centimeter to a centimeter and a half makes a material difference in the penetrability and intensity of the rays, and hence in the results.

Another important element in the end result is that of the length of the exposure. One milligram used for an hour constitutes a milligram hour. Thus, ten milligrams used for six minutes would also constitute one milligram hour. This is a rough and unsatisfactory unit of measure and is not constant unless the factors of distance and filtration are also considered. The effect of radium varies directly with the time of exposure, and inversely to the square of the distance, but no formulae have yet been worked out that are constant in the sense that they have been plotted out in X-ray therapy. Thus, in describing the use of radium, the number of milligrams must be mentioned, the nature and thickness of the filter, the length of the exposure, and the position of the applicator with reference to the surface treated. To shorten this, in this paper it will only be stated what type of rays should be used what quantity of radium, and for how long.

Radium operates by virtue of the bombardment of tissue by radium ions. Its effect is not actinic. It seems to have a selective action on neoplastic, gland and embryonal cells, and to some extent upon the elements of chronic inflammation. Briefly it parallels the effects of the X-rays. Thus, the X-rays and radium may be considered mutually complementary, capable of doing the same work, the one taking up the burden where the other leaves off. The general value of the X-rays is the greater because they require less time to produce given results, are simpler to employ, can be used over more extensive areas, are better understood, and can be administered in definite doses according to formulae representing a standardization more or less generally accepted.

The conditions within the domain of dermatology in

which radium is most useful are epitheliomata and certain vascular nevi. The present discussion of these will embody not only my own experiences, but also those of other writers. What is mentioned of other conditions is based solely on my own observations. It is conceivable that further studies in this field would open new avenues of treatment, but at the present writing there seems to be very little ground for believing that radium possesses much more value than in its effect upon the two groups of lesions already mentioned.

Epithelioma

It cannot too often be emphasized that, other things being equal, the best treatment for epithelioma is its removal. When this is impossible, or not desired by the patient, or when the resulting disfigurement would be extreme, or when the case is inoperable, treatment by means of the X-rays or radium is indicated, and the latter is to be preferred when the lesion cannot conveniently be reached by the X-rays. The amount of radium employed, and the length of the exposure is determined by the area and the volume of the growth.

In flat small cutaneous lesions plaques, or needles laid upon the surface should be employed. From five to twenty-five milligrams of radium are used, filtered through from one tenth to one half millimeter of aluminum, and at a distance of one half to one centimeter from the surface, for from thirty minutes to an hour and a half, according to the amount of radium employed. This method assures the use of the medium and hard rays. In voluminous growths the best method of treatment is to insert five milligram needles about a centimeter and a half away from one another, and to leave them in from one to three hours according to the effect wished upon the treated area. Instead of needles radium emanations may be used in a manner similar to that employed for the needles.

In epitheliomata of the eyelids plaques should be used unless the lesion be very voluminous. In epitheliomata of the tongue, lips, vulva and anus the form of application should be determined by the size and depth of the lesion, and the duration of the exposure is regulated by the same factors.

In general it is best to cauterize the lesion to be treated, under local anesthesia, in the manner already described in connection with the use of the X-rays. Radium may also be employed in treatment of the scar after the surgical removal of epithelioma. For this purpose filtered hard rays should be employed in order to avoid injuring the skin. Radium has also been found useful in the treatment of epithelioma following X-ray dermatitis, in treating malignant lesions of xeroderma, and in arsenical and senile hyperkeratoses as well as in leucoplacia of the buccal orifice, particularly the tongue. In melanoma it has also been employed in a manner analogous to that outlined for epithelioma.

Roughly speaking radium is beneficial in about one half the cases in which it is used. It nearly always cures basal cell growths, and frequently does so in the squamous cell type if these have not been present too long. The older and larger the lesion, the greater will be its obstinacy to radium, and the greater the likelihood of recurrences. In epithelioma of the tongue and lips various authors report varying success. My own belief is that radium only staves off the inevitable in such cases, unless they are very recent, and even in these surgery is to be preferred unless there is a valid contraindication.

Nevi

There are several excellent methods by which nevi can be removed, the choice depending upon the type of nevus, its size and location. Very small lesions are

most quickly and most satisfactorily eliminated by some agent of destruction, as already described in previous articles. In general, the use of radium is restricted to angiomatous nevi whether flat and superficial or raised and deep, and irrespective of whether the vessels are prevaillingly lymph or blood channels. The prognosis is better the younger the nevus, in other words the more closely it is related to the embryonal stage. The older and more organized the lesion, the more difficult it is to obtain resolution. Although the greater proportion of vascular nevi in infants disappear spontaneously, if lesions of this type show the least sign of activity they should be treated because their size has a material bearing upon the result from the cosmetic standpoint. Promptness is more urgent in nevi of the face and other exposed areas than elsewhere on the body.

The best way of applying radium is by means of plaques filtered through one to two millimeters of aluminum, or needles placed immediately upon the surface to be treated. It is an advantage rather than a disadvantage to use both the medium and hard rays. A ten milligram applicator would be applied for from upwards of forty-five minutes to various areas of the lesion, the points of attack depending upon its dimensions. Exposures should be repeated at intervals of three to four weeks, their number being determined by the speed of involution. When the lesion has become moderately flat, and pale pink in color, treatment should be stopped for involution will proceed, and a residual lesion of the type mentioned often blanches completely within between three to six months. It is impossible to be more definite in describing the procedure just outlined since radium treatment has not yet been reduced to any satisfactory formula. The end result in successfully managed cases is a soft pliable pink or dead white scar, infinitely better in appearance than the original condition. From time to time, after prolonged intervals, telangiectasia appear in the scar, but even this unfortunate eventuality does not alter the fact of the scars being the lesser of two evils.

Fifteen years ago Wickham reported the successful treatment by radium of portwine marks. His applicators consisted of flexible material covered with a varnish containing the element. Although young portwine marks may respond to management with radium the result is always doubtful, and the Kromayer lamp, properly used, appears better. Except before adolescence radium is inefficacious in these lesions.

Radium is also employed with a moderate degree of success in light pigmented nevi with or without hair. The method of application is here too determined by the configuration and volume of the lesion. In nevi other than of the types mentioned radium has been found of little use up to the present time. In angiomata and other lesions resembling nevi, but appearing later in life, there has been no encouragement found in radium therapy.

In addition to the foregoing, radium has been employed in various other skin affections, but its effects have not been accurately observed and no exhaustive studies have been made. Possibly it has unsuspected value, but it is obvious that in disseminated dermatoses its use would be impracticable because of the length of time that would be required to obtain results.

Simple Inflammations

In obstinate indurated patches of psoriasis, lichen or lichenification, or any other inflammatory thickening of the skin radium may be used for ten to fifteen minutes at a given site, filtered through a half millimeter of aluminum, or at a distance of a centimeter from the surface, or both according to the desired type of irradiation. The purpose is to remove an otherwise obstinate lesion.

(Concluded on page 266)

Purpura Hemorrhagica

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Camden, N. J.

Purpura Hemorrhagica is sufficiently uncommon in ordinary general practice to merit the report of an interesting case in a white boy.

The patient when a baby was normal in every respect. I saw him when an infant, and at widely separated times since. Normal delivery.

June, 1921, a healthy looking little fellow aged 9 years. Came to the office, because of hemorrhage in the tonsils, nosebleed, and "black and blue" marks over right thigh and leg. Mother stated she noticed these "spots" in the mouth and on the arms too.

He had two brothers and two sisters living and well. No one else in the family complains of "bleeding" or has any similar trouble as this patient. No hereditary taint, no family occurrence of the condition can be traced.

The patient had measles, chicken pox, sorethroat, tonsillitis, and influenza (1918).

Examination.—General examination was negative. Evidence of hemorrhagic areas in tonsils, soft palate, and limbs.

Urine Analysis.—Negative.

Blood Count.—R. R. C. 4,730,000

W. B. C. 8,400

Hb. 72%

Coagulation Time.—8½ minutes.

Blood Type.—No. III (the same as his father's blood).

Blood Platelets.—110,000 per cu. mm.

Fears.—Negative.

In March, 1922, he received blood transfusion from father. No reaction. He was transfused several times—(250 c.c.); and was at time given calcium chloride and calcium lactate.

Feb., 1923.—Blood Count.—W. B. C. 6,700

73% Polys.

3. Monos.

4. Trans.

18. Lymphs.

65% Hb.

Platelets = 124,000

Urine Analysis.—Negative.

March, 1923.—Feces.—Brown paste, bile + casein, neg.; mucus +; vegetable +.

Parasites.—Neg.

Coagulation Time.—7¼ minutes (capillary).

Discussion and Diagnosis

Purpura is a condition characterized by hemorrhages into the skin and mucous membranes. When free bleeding occurs from the mucous surfaces, we have *purpura hemorrhagica*.

These hemorrhagic states have been variously classified. Thus, we have (1) primary purpura, and (2) secondary purpura. The second is by far the larger group.

The primary purpuras include

Visceral purpura (Henoch's)

Arthritic purpura (Schonlein's)

Purpura hemorrhagica (Werlhof)

Simple purpura.

Schonlein's disease or "rheumatic purpura" and Henoch's purpura are probably identical conditions, varying only in degree.

The secondary purpuras (symptomatic) occur as the result of

(1) Infectious diseases, such as scarlet fever, measles, meningitis, small pox, typhus fever, streptococcic endocarditis.

(2) Intoxications—arsenic, iodides, mercury, quinin, ergot, salicylates, antipyrin, benzol, copaiba, and other drugs. Toxemias of pregnancy, jaundice, anaphylactic states and snake-bites, may cause purpura.

(3) Nervous disorders—seen at times in *tabes dorsalis*, hysteria, and in neuralgia.

(4) Diseases of the liver—acute yellow atrophy, cancer, and cirrhosis.

(5) Cachectic states—seen in scurvy, carcinoma, nephritis, pernicious anemia, leukemia, aplastic anemia, tuberculosis, Hodgkin's disease, senility or general debility.

Scurvy in adults must be differentiated from *morbus maculosus of Werlhof* (purpura hemorrhagica). In purpura, there is an absence of the swollen gums and the signs of inflammation about the hemorrhages.

In lymphatic leukemia, we have the characteristic blood picture.

Hemophilia is almost always hereditary, the coagulation time of the blood is greatly increased, and there is a marked tendency to prolonged bleeding after trauma of any kind. Grandidier (Leipzig, 1877) considers hemophilia the most hereditary of all hereditary diseases.

The males are usually the "bleeders," the females are very rarely affected although they usually are the transmitters of the disease. Males who are themselves bleeders however transmit the disease, but healthy females of hemophilic families although not themselves bleeders, transmit the disease to their male offspring. The delay in blood coagulation time in hemophilia is not due to a decrease in the number of blood platelets or alteration in the number of blood cells, or in the amount of fibrin and salts. In purpura hemorrhagica we have, a marked reduction in the number of platelets, there is a normal coagulation time, and is never or very rarely, hereditary.

Subcutaneous puncture of the skin usually causes an area of hemorrhagic extravasation in purpura, not so in hemophilia.

Hess (Feb., 1916) showed that a tourniquet applied to the upper arm for a few minutes produces minute petechiae in purpura, but not in hemophilia—the capillary resistance test.

These conditions must not be confused with "hereditary telangiectasia," cases of which, associated with familial epistaxis, the author reported in the *Archives of Internal Medicine* with a complete review of the literature. (Vol. XXVII, No. 1, pages 102-125, Jan. 15, 1921.)

In *morbus maculosus of Werlhof* (or purpura hemorrhagica)—bleeding from the mucous surfaces occurs quite often. Nosebleed is common—this occurred frequently in the case here reported. We may get hemorrhages from the mouth, stomach, kidneys, uterus, and intestines. These cases often have fever. The bleeding time is much prolonged in these cases, although the coagulation time is normal or only slightly prolonged.

The normal count of blood platelets is about 300,000. In my case the count was only 115,000. They may drop to 2,000 or 3,000 and even below 1,000. Retraction of the blood clot in purpura hemorrhagica may not occur or occur only after a long delay.

In secondary purpura we have the symptoms of underlying disease, and the absence of any marked reduction of blood platelets. *Idiopathic aplastic anemia* must not be confused with idiopathic (primary) purpura hemorrhagica. The purpura is rather more common in children than aplastic anemia.

Blood platelets are reduced in number in aplastic anemia as in Werlhof's disease.

Patients with aplastic anemia do not recover, while those with hemorrhagic purpura may recover. Blood transfusion in purpura does much good, in aplastic anemia it usually fails. In aplastic anemia the hemorrhages occur after the anemia is well established and of severe grade, while the anemia is not so marked in purpura hemorrhagica, when the hemorrhages begin. In purpura hemorrhagica there are evidences of regeneration of the white and red cells.

Elements of the marrow, and increased numbers of bone marrow white cells and young red cells are found in the circulation. While in aplastic anemia, even following hemorrhages you get leukopenia and very few young red cells.

The marrow in purpura hemorrhagica acuta is often hyperplastic.

Minot states that in pure aplastic anemia the disease process is directed towards all the marrow elements, while in primary purpura hemorrhagica it is directed intensely towards the platelets. He compares the cases of congenital purpura hemorrhagica to congenital hemolytic jaundice, in that in the former the platelets may suffer destruction but without evidence of regeneration, while in the latter the red cells are destroyed, though with evidence of regeneration.

Acute Aleukemic leukemia, when complicated with symptomatic purpura hemorrhagica, may be confused with Werlhof's disease. Here, however, the enlarged lymph tissue, when present, aids in the diagnosis—as does the presence of abnormal lymphocytes. The small lymphocytes being normal in aplastic anemia and purpura hemorrhagica.

Finally, while the percentage of lymphocytes may not be high in the nonleukemic phase of leukemia, as a rule it is much higher than it is in aplastic anemia and very much higher than it is in hemorrhagica purpura (idiopathic), even when occurring in young children.

Treatment

Christian states that the "only effective means of treating the hemorrhages is by transfusion." The same treatment helps to correct the anemia. Drugs do no good. Local applications help to stop the hemorrhages from the nose, etc. Subcutaneous injections of fresh blood serum, may be tried, but not much can be expected. Kephalin, coagulen, coagulose, thromboplastin may be tried.

Roentgenotherapy over the spleen may also be tried—(Stephan, 1920). Coagulen (an extract of blood platelets and rich in thromboplastin) may be given subcutaneously—

Five grams in 300 c.c. sterile saline solution.

Conclusions

1. A case of purpura hemorrhagica is here reported, in a boy aged nine years.

2. To make the diagnosis of (primary) purpura hemorrhagica—we must have

- hemorrhages from the mucous membranes.
- ecchymoses or petechiae of the skin.
- much prolonged bleeding time.
- a non-retractile blood clot, and
- a markedly reduced platelet count.

A positive capillary resistance test will also be present. The platelet deficiency is probably the most important single factor.

Note: The varieties of purpuric diseases of the newborn need not be discussed here. Mention need only be made of

Syphilis hemorrhagica neonatorum.

Winckel's disease or Epidemic hemoglobinuria, (hemoglobinuria neonatorum); and Morbus Maculosus neonatorum.

We may have cases of purpura hemorrhagica with severe hemorrhages, and profound anemia and death in 24 or 48 hours—the so-called purpura fulminans. Purpura urticaris and pemphigoid purpura are varieties of Schönlein's disease. The former is associated with simple urticaria and distinct purpura and the latter with edema and bloody blebs.

A severe form of Winckel's disease (associated with jaundice, gastro-intestinal symptoms, fever, punctate hemorrhages, cyanosis), with fatty degeneration of the viscera, is known as Buhl's disease. Winckel's disease is sometimes epidemic in children hospitals.

Herrmann, of An Arbor (March, 1923), reports a case of purpura hemorrhagica with visceral and arthritic pains and petechial hemorrhages, simulating subacute bacterial endocarditis—in a man aged 45 years. The platelets were reduced to 52,000. He died of a lobar pneumonia. Blood cultures were negative.

Brill and Rosenthal (*Am. J. Med. Scs.*, CLXVI, No. 4, pages 503-512, October, 1923), in their recent paper concludes that "splenectomy in (chronic thrombocytopenic purpura hemorrhagica) this disease is a life-saving measure and should as such be tried in all grave cases" of this form of purpura. They report two instances of permanent cure.

Rabinowitz (*A. J. M. Scs.*, Oct., 1923), mentions purpura as following adrenal hemorrhage in infancy. He reports two instances of this condition in his paper. In his summary, he states that "an acute illness in a previously healthy child which is rapidly followed by purpura and collapse should, in the absence of signs pointing to meningococcal infection, be sufficient for the correct diagnosis" (of adrenal hemorrhage).

1425 Broadway.

State Health Commissioner Urges Use of Typhoid Vaccine

Dr. Matthias Nicoll, Jr., State Commissioner of Health, is seeking the co-operation of the physicians of the State in the efforts of the Department to control typhoid fever which as a result of the exceptionally dry summer has recently shown a tendency to increase. According to Dr. Nicoll 126 cases of typhoid fever were reported in July, which is the highest number for that month since 1919. In August 203 cases were reported. There have been several recent limited outbreaks such as those in Rochester, Jamestown, Chatham, Castleton and Kingston. Some of these were apparently due to infected milk and others to water of doubtful purity to which people are more apt to resort in dry years owing to the exhaustion of the usual sources of supply. An outbreak of 34 cases which occurred in Elmira was traced to the use of infected ice harvested from the Chemung River. This is one of the rarest modes of transmission, and is the first recorded in New York State since 1903.

The vast majority of typhoid cases, however, occur sporadically and not a few of them have been due to contact with another member of the household already sick with the disease.

The Division of Communicable Diseases has recently commenced the practice of sending to every physician who reports a case of typhoid fever a letter asking him to urge immunization with typhoid vaccine upon all the other members of the household in which a case of the disease appears. "Every year," says the Department's letter, "there are reported a number of typhoid cases which are evidently secondary to a previous case in the same household or who have been infected while nursing a typhoid case. Even when the patient is sent to the hospital there is a certain risk to the family upon the return of the case due to the possible persistence of typhoid organism. In 1922 there were 100 instances of multiple cases in the same family involving 244 cases.

"It is hardly necessary to refer to the proofs of the efficacy of typhoid vaccine. However, it should be borne in mind that while the vaccine is practically certain to prevent an attack from infection received subsequent to the first dose, it is of doubtful or limited value if infection has already been taken into the body."

Vulpera—Tarasp

A Precious Discovery in Mediaeval Days

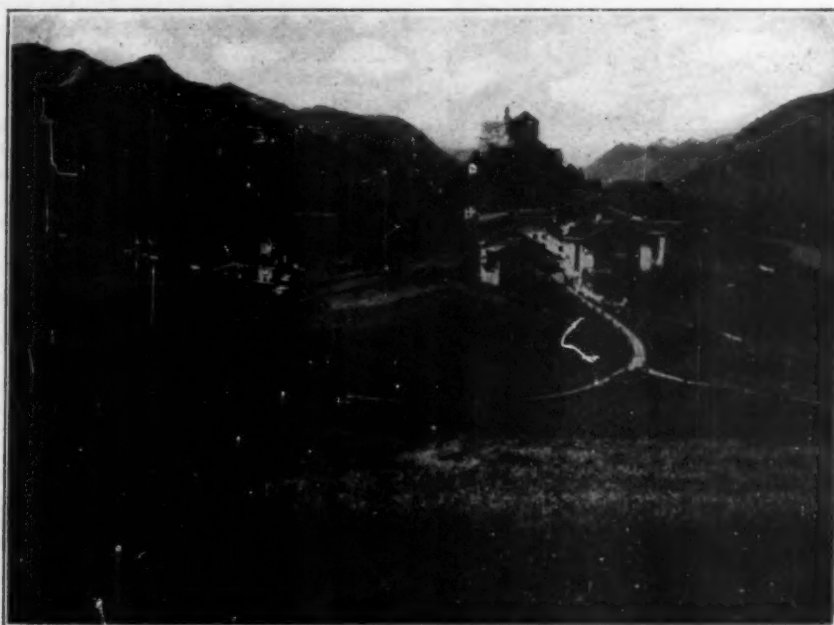
MARIE WIDMER

New York

Engadine, or Engiadina, valley of the Inn, is the name which the Swiss people have given to that inspiringly beautiful alpine vale which in a length of 57 miles, extends from the Plateau of Maloja (5960 feet a/s) to Finstermünz, the Swiss-Austrian frontier. While its

salty taste, also that it left a reddish sediment on the rock. They mentioned these facts to their parents and soon the two springs and their very apparent curative effects became known to all the dwellers along the Inn.

The fame of these springs which were subsequently



The Castle of Tarasp near Vulpera-Tarasp, famous spa in the Lower Engadine, Switzerland, is far famed for its unusually beautiful location.

upper section is far famed for its transparent lakes which gleam like precious jewels in a setting of towering, snow-crowned mountain heights, the lower part of the valley enchants the eye with its great diversity of form and its rare, colorful beauty. Lofty mountain peaks rise majestically in the background on both sides of the river Inn, an affluent of the Danube; wide stretches of dark forest cover the lower levels, and sun-kissed hills and plateaus bear golden harvests for the inhabitants of the picturesque villages which are scattered here and there, some on elevated slopes, others in the verdant depths of the valley.

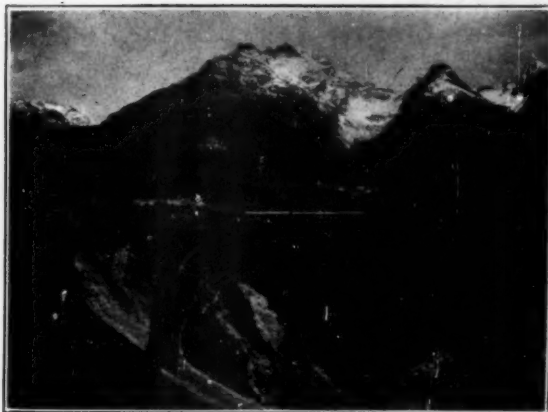
And where the view is finest there invariably stands either a pious little place of worship or an ancient chateau; one as reminder of the creator of all these glories, the other as a relic of those days of romance "when Knighthood was in flower."

In such an enchanting part of the Lower Engadine, at an altitude of 4200 feet a/s, beckons Schuls-Tarasp-Vulpera, a cluster of singularly blessed spas whose history dates back to the 15th century. Back in those early days, an old tradition tells, two youthful goatherds of the tiny hamlet of Vulpera were obliged to climb after some of their charges which had ventured down the steep cliffs on the right border of the river. During this perilous expedition they noticed two springs bursting forth merrily out of a rock and being thirsty they refreshed themselves in leisurely fashion. However, the youngsters were keen enough to observe that the water had a

named after the patron saints of the Grisons, Lucius and Emerita, spread farther and farther. Paracelsus, the learned disciple of Aesculap, recognized their value and the celebrated Swiss physician and explorer Conrad Gessner referred to them in 1561 as "a miracle of nature." However, since the valley was only brought into communication with the outer world by means of a carriage road in the middle of the 19th century, the pioneer "guests" of the four previous centuries were obliged to sacrifice all comforts for the realization of a "cure."

It is related how these "health pilgrims" used to come to Vulpera up to some 70 years ago, carrying their food supplies in a bag on their back. They established themselves in temporarily erected huts, with the most primitive of cooking apparatus and with a pile of hay substituting for a regular bed. No sooner had they arranged their few belongings they set out to drink salt water in quantities which were only reduced by a severe rebellion of the stomach. As their doctor had probably advised these people to drink a pint or even a quart of Tarasp water per day for two or three weeks, they calculated that time and money could be saved if the quantity of salt water deemed necessary for a cure could be consumed in a shorter period, with the result that they often had to hasten back to their medical adviser in considerable distress.

However, the time of such primitive cures has gone and the three resorts Schuls-Tarasp-Vulpera, which have been developed in the vicinity of those springs, just a



A picturesque section of the Rhaetian Railway in the Lower Engadine, Grisons, Switzerland. The romantic Castle of Tarasp towers in the background.

short walking distance from each other, are now served by the electric Rhaetian Railway, by automobile—and horse-drawn diligences. Extensive Kurhaus establishments and pensions have sprung up during the last seven decades and the sunlit plateau where Vulpera spreads itself has particularly become a favorite rest and recreation point for visitors taking a scientifically prescribed cure either here or at the lower situated Kurhaus Tarasp which borders the river Inn.

While the Lucius and Emerita drinking springs contain glauher-salt, bicarbonate of soda, sodium chloride, boron, lithium and carbonic acid in quantities not surpassed by any other springs of their kind in Europe, four alkaline-earth-iron springs which were also discovered in the vicinity are appreciated for their valuable constituents of protoxide of iron, carbonate and sulphate of soda.



Vulpera-Tarasp—Some of the interesting bridges and viaducts of the Rhaetian railway, which is serving this district, are seen in the background.

Schuls-Tarasp-Vulpera offers moreover a wide variety of baths. Visitors have at their disposal the chalybeate baths in the Kurhaus Tarasp and at Schuls, also alkaline-saline baths in the Kurhaus. In addition there are Carbonic acid baths and other therapeutic baths—brine baths and pine-needle baths—in the Waldhaus establishment at Vulpera.

Vulpera, on account of its splendid situation and interesting surroundings is regarded as an excellent starting point for numerous forest promenades, walking tours and climbing expeditions; it is moreover the gate to the Swiss National Park, an extensive reservation of great

romantic beauty, where animal and plant life, according to American principle in the matter of National Parks, is never disturbed.

And wherever we may turn in this garden spot of the Engadine there beckons to us in stately grandeur the far-famed castle of Tarasp, probably the best known landmark in the whole land. This proud old château with its white walls and towers rises on a shapely hill and mirrors itself coquettishly in the transparent depths of a tiny lake slumbering at its foot.

Its history dates back to the first part of the 11th century, when it was property of the nobles of Tarasp. After the death of its first owners the castle was acquired by the counts of Tyrol and in 1686 by the princes of Dietrichstein. In 1815 it became property of the canton of the Grisons and after several subsequent changing of hands, it was bought by a rich German who, appreciating the possibilities of this ancient stronghold, had it entirely renovated. During the turmoil of the world war, a few years ago, it finally was purchased by the ex-Grand Duke of Hessen and is now one of the most impressive summer residences in Switzerland. As visitors are admitted daily between 4 and 6 P. M., the château has become an almost obligatory excursion point in the Engadine and every traveller who has the good fortune to visit this magnificent castle echoes the words in which de Bertigny, the famous explorer, referred to it 63 years ago:

"I have travelled far, but I cannot remember a more romantic landscape than that of Vulpera-Tarasp and environs, as seen from this château."

Treatment of General Paralysis with Tryparsamid

In discussing articles recently published in the *Journal A. M. A.*, regarding the use of tryparsamid in the treatment of general paralysis, S. W. Mott questions whether some of the cases reported by the Wisconsin investigators may not have been of cerebral syphilis and not paresis. In raising this question the writer discusses the difference between these two forms of syphilis. Recent experiments tend to establish the possible existence of two forms of spirochete—neurotropic and derma tropic. The latter form which is encountered in cerebral syphilis yields readily to treatment with arsenobenzols, possibly due to the presence of the spirochete in the lymphatic system. The difficulty which is met in treating meningoencephalitis may be due to the fact that the spirochete in his case has left the lymphatic system and is found actually in the nervous tissue.—(*Brit. Med. J.*, July 7, 1923, 24.)

The Elimination of Salvarsan in Urine

Records of tests were made of 63 patients by L. Koppel and A. V. St. George. The Abelin test was used. The urine of patients under treatment was collected immediately following and every six hours after the administration of salvarsan. It was found that in patients who had received their first injection salvarsan appeared in the urine within six hours and disappeared by the end of 30 hours. In patients who had received five injections, the average point at which the test became negative was at the end of 36 hours.

Experiments carried out in the test tube, using the various dilutions of salvarsan, showed the Abelin reaction to be positive in the proportion of 1 to 100,000. All control tests were negative.

The author concludes that the Abelin test is of real clinical value. It can be rapidly applied and can be used as an index of the rate at which salvarsan should be administered. Failure of elimination of the drug should place one on his guard as to the possibility of salvarsan poisoning.—(*Jour. Med. Soc. N. J.*, April, 1923, 129.)

Experiences with Rivanol in Gonorrhea and Pyoderma

Hans Biberstein recommends the use of rivanol in the treatment of gonorrhea of the urethra in the male (injections, irrigations (sol. 1:2000, 1:500) Guyon injections (1:5000, 1:1000) and of various kinds of pyoderma (impetigo contagiosa (1 per cent paste) ecthyma, also post scabium (powder 1 per cent, 10 per cent) and of pyocyanous infection of the ulcers cruris.—(*Deutsche Med. Wschr.*, 1922, No. 23.)

On the Cure of Prolapse of the Uterus

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SENIOR ATTENDING OBSTETRICIAN AND GYNECOLOGIST TO THE KINGS COUNTY HOSPITAL; CONSULTING GYNECOLOGIST TO THE SWEDISH, JEWISH AND ST. JOSEPH'S (FAR ROCKAWAY) HOSPITALS; CONSULTING OBSTETRICIAN TO THE WYCKOFF HEIGHTS, CONEY ISLAND, EASTERN DISTRICT AND FLUSHING HOSPITALS; GYNECOLOGIST TO THE LONG ISLAND COLLEGE HOSPITAL; CONSULTING OBSTETRICIAN AND GYNECOLOGIST TO THE WILLIAMSBURG MATERNITY HOSPITAL; CHIEF OBSTETRICIAN AND GYNECOLOGIST TO THE BUSHWICK HOSPITAL.

Brooklyn, N. Y.

It is now four years since my first paper "On the Cure of Prolapse of the Uterus," by the method initiated by Sims, later improved by Emmet and still later improved by Dr. L. Grant Baldwin of Brooklyn recently deceased, was published. (*Am. Jour. Obst.* LXXIX, No. 2, 1919.)

This generation of gynecologists has produced but few such masters of vagino-plastic work as Dr. Baldwin. In my previous paper I stated that the credit for the later development of this technique was due entirely to Dr. Baldwin and that I was following out his methods as closely as it is possible for an individual to follow out the ideas of others.

I had seventy cases to my credit at the time of my first publication; since then, I have added sixty more. My associates in the various institutions have done thirty cases up to the present writing. Fifteen of these cases having been performed by Dr. Wm. Pfeiffer and seven by Dr. Rynd.

Several questions naturally arise in the course of the years of additional experience; viz:—

First—Am I still unqualifiedly satisfied with the results? Yes.

Second—Why? The simplicity of the method although seemingly complicated; its freedom from shock and absolute freedom from complications frequently accompanying any invasion of the abdomen.

Third—Have I made any change in the technique? One simple thing only and that on the suggestion of Dr. Bonner, for many years my associate at the Jewish Hospital. After having seen the cervical fixation suture break numerous times, he suggested that we have a second suture as an emergency stitch, so placed that it could be immediately picked up, run through the cervix, tied and the cervix and uterus again placed in their normal positions; the cervix held up in the hollow of the sacrum and the fundus thrown forward. This little suggestion has been of immense value to me. However, as my understanding of the reason for the breaking of the suture became clearer, the accident did not happen so often. The reason for the breaking of the suture is due to the strong pull exerted upon it when introducing the silver wire sutures. The use of counter-pressure when such pull is evident saves time and patience.

The suture now used for the purpose is of No. 2 chromic gut, this being one of the few occasions when I have any use for chromic gut.

The added experience has remedied, to a great extent, my mistakes, as explained in my former article; notably, a better result so far as the cystocele is concerned. Still, where there is failure to obtain good union on the anterior wall, I have not had such a result as would leave sufficient decensus of the bladder as would give symptomatology referring to this organ and the uterus has been held up even when this has occurred.

No operative procedure has one hundred percent perfect results; but no type of work has ever given me such satisfactory results and such relief to the patients, as the "Sims Emmet Baldwin."

It is harder on the surgeon because of the time and the fussiness necessary for its execution; especially for those who have not done a great number. On the other hand, it is much easier in both its immediate and ultimate results so far as the patient is concerned.

The history of the development of the procedure was recited in the paper already mentioned. The reasons for the adoption of this operation were given at the same time. The description of the operation outlined below is taken verbatim from the same paper. I have not been able to improve upon it. It is best learned by watching the operation performed:

The first important step is to assure yourself that the uterus is replaceable and retainable; in other words, there must not be any complicating adhesion, old exudates or other lesions which would tend to defeat the mechanics of the operation. The preparation so far as surgical cleanliness is concerned is the same as for any other procedure. After satisfying ourselves that we have a prolapse without complications, the patient is placed in the Sims' posture on a table which has the head lowered. This slight Trendelenburg position is of aid in displacing the prolapsed bladder upward. A great and almost indispensable aid in retaining the patient in the Sims' position is to bind the feet and legs together with a wide bandage.

The next step is the introduction of a Cleveland self-retaining speculum of which there are two sizes made to facilitate its use either in moderate or exaggerated cases of prolapse. In the perforation at the end of the tongue is placed a suture about twelve inches long with a needle on one end. The suture is tied at its middle to allow room for another tie later. I find heavy silk the best material to use here.

The following step is curetting if necessary and such work on the cervix, trachelorrhaphy or amputation, as the individual case demands. This being finished the suture previously placed in the speculum is passed through the anterior lip of the cervix or its remaining stump and tied, thus drawing the cervix into the hollow of the sacrum and in this manner throwing the fundus and body of the uterus into a position of exaggerated anteversion and retaining it there during further steps of the operation. Now, if the operator will push up the cystocele with some blunt instrument or the finger the case may be studied and the points for further procedure chosen. A glance at Fig. 1 shows three denuded areas. The denudation best made first is in the left lateral or lower vaginal sulcus as the patient is lying. This is selected by using a sharp hook and picking up a point in the sulcus a little posterior to what would be the normal position of the cervix, which can, with some degree of force, be drawn to a central line. This point having been chosen it should be denuded of the mucous membrane for an area about one-half by three-fourths of an inch,

NOTE.—Through an unfortunate oversight, the illustrations accompanying Dr. Judd's article were omitted in the October issue of MEDICAL TIMES. As much of the value of the paper was lost by this omission, the article is being reproduced with the plates in their proper positions.

the longer diameter being in line with the long axis of the vaginal tube. A similar point is chosen in the right or upper vaginal sulcus and denuded; next a denuda-

three silverwire sutures under the denuded areas bringing them all together in the center. No. 24 or 26 is the best size for this, which is the part of the operation car-

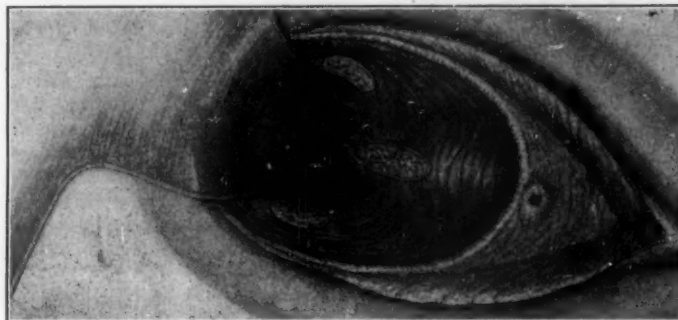


Fig. 1.—Showing points in vagina to be brought in apposition.

tion is made on the anterior vaginal wall at its center with its posterior extremity about one-half inch in front of the cervix. It should be of the same length as the lateral denudations but wide enough to take care of the lateral denudations which are to be subsequently brought together at this point. Its transverse diameter should usually be about one and a half times that of the lateral denudations.

ing for the prolapsed uterus. The wire is introduced by means of a carrier of silk on a needle. It should be carried under each of the original denudations separately from margin to margin, starting and finishing laterally just outside the denudation. Before passing under the lateral denudation the tissues underneath should be picked up or pulled out by means of a sharp hook so as to obtain a good hold on the underlying tissues which con-

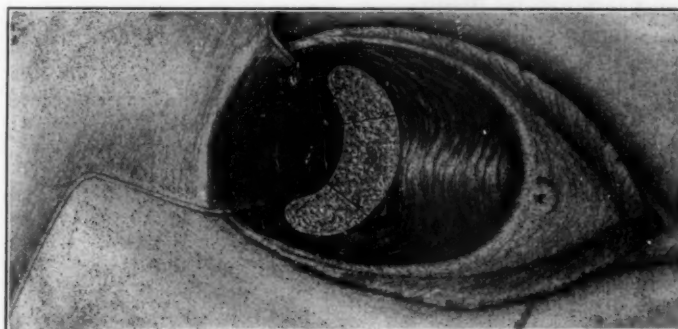


Fig. 2.—Showing denuded area, continuous from one lateral suture to the other.

The next procedure is to bring together by means of a running suture of fine gut (No. 0) the lateral contiguous margins of the denuded areas, the left margin of the right denudation to the right margin of the central and the right margin of the left to the left margin of the central. This procedure spreads out the denuded

sist of that portion of the levator ani muscle and its fascia arising from the descending ramus of the pubes on each side, and that portion of the endopelvic fascia lying above it. These sutures are now twisted while pressure is made on the central denudation thus bringing them all together and making an artificial pessary or bar in

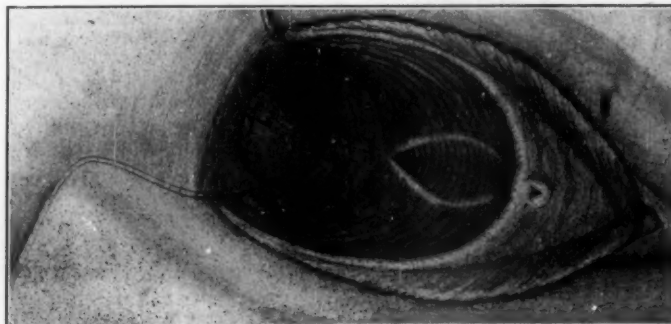


Fig. 3.—Showing two folds on the anterior vaginal wall, extending from the base of the urethra in crescentic shape to the more external of the two silver wire sutures.

areas in the shape of a half moon with the sharper ends cut away (Fig. 2).

The next step is the insertion of two or sometimes

front of the cervix. The sutures are cut about one and one-half inches long, the ends bent over into a circle or protected by a split bullet (Fig. 3).

A study of the case now will show two crescentic folds on the anterior vaginal wall extending from the outer margin of the previously completed work down to

moved and a Sims' speculum substituted. Then these wires are twisted and cut somewhat shorter than the others and cared for in the same manner, except that it

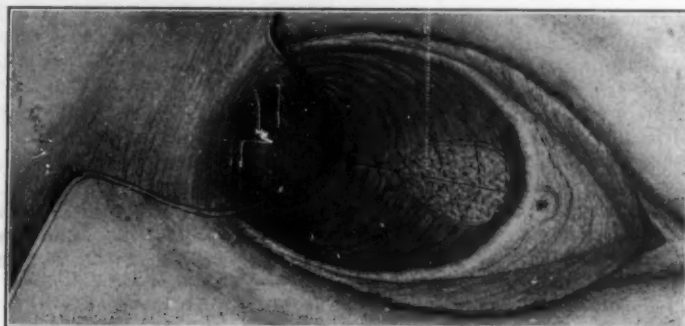


Fig. 4.—Showing sutures slanting from above downward.

the base of the subpubic ligament in the neighborhood of the meatus urinarius, bounding the external limits of the cystocele (Fig. 3). These two longitudinal folds are now denuded and their proximal margins united with plain fine gut (No. 0) and the spread out, denuded areas united by finer silver-wire (No. 27 or 28). The sutures

is best to bend them laterally at right angles at the vaginal surface. With union there will now be an absolute cure of the prolapse of the uterus and bladder.

The patient is then changed to the lithotomy position and the rectocele cared for by any good flap-splitting operation; or in cases of very large rectocele, I prefer

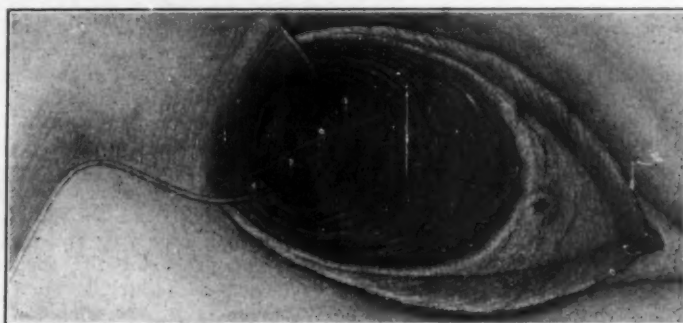


Fig. 5.—Showing approximation of the mucous membrane

are passed the same as previously with the exception that those picking up the upper or right denuded area are passed in a direction from above downward toward the meatus and those picking up the lower or left denuded area in a reverse direction thus drawing the vaginal wall with the cystocele upward toward the cervix (Fig. 4). From three to six sutures are required for the cystocele proper. Before twisting these sutures the cervical fixation suture should be cut, the Cleveland speculum re-

the Weisbrod procedure as carried out by the late Dr. Weisbrod at the Wyckoff Heights Hospital. This latter procedure has been described by one of my assistants, Dr. Harry Koster, who formerly worked with Dr. Weisbrod. His article was published in the *American Journal of Obstetrics and Diseases of Women and Children*, Vol. LXXX No. 2, 1919.

375 Grand Avenue.

The Importance of Metallic Salts in Immunization

Very interesting results have been obtained by L. D. Walbum and J. R. Morch (*Ann. de l'Inst. Pasteur*, April, 1923, p. 396) in the production of diphtheria antitoxin in horses and goats by the administration of various metallic salts during the period of immunization. It was found that the intravenous injection of manganese chloride or of cobalt chloride—particularly the former—resulted in the production of an antitoxin of considerable higher titre than that usually obtained.

Not only, however, was this effect obtained when the salt was given at the same time as the toxin, but if it were injected altogether apart from the toxin, during the period when the antitoxin content of the serum was declining, it gave rise to a sudden ascent in the titre of the serum. The manganese injected into the blood stream rapidly disappears from the circulation, and is largely excreted by the intestinal mucosa. In horses receiving daily injections of the chloride the manganese content of the different organs was found to rise proportionally to the quantity of the metal administered.

A close relation was established between the ability of the liver to retain manganese and the ease with which antitoxin was elaborated by the animal. The effect of certain metals on the production of agglutinins to *B. coli* in the rabbit showed that there was a correlation between the atomic weight of the metal and the quantity of antibody obtained. Just how the metals act in the mechanism of antibody production is not clear, but certain observations rather suggest that their function is of a catalytic nature.—(*Brit. Med. J.*, July 7, 1923, No. 3262, 4.)

Rectal Treatment of Duodenal Ulcer

M. P. Le Noir following Sippy's observation on the value of the alkalization of the gastric juice in duodenal ulcer says it has been found that a pint of soda bicarbonate in fifteen per cent. solution is beneficial. It is stated that under this treatment pains have diminished in a large number of cases and the gastric juice has decreased in acidity.—(*Le Prog. Med.*, Nov. 18, 1922.)

CREMATION

W. F. McNUTT, M.D.
San Francisco, Cal.

We have the good fortune to live in an age, when sanitation, hygiene, preventive medicine, economy, and efficiency, occupy a large place in the minds of the medical profession and in that of the public. It is an opportune time to call the attention of both the profession and the public to this important question, viz., how to dispose of our dead with the least danger and cost to the living. It is not our intention to give a detailed history of its progress or to enter largely into the literature of the subject. We may however say the progress of cremation in this country has been slow, those who favor the method can report progress. Nearly 800 years ago Ferrar Ensio, and a few months later, Guichard also wrote advocating cremation and advising against earth burial as dangerous to the living. In 1836 a work was published in Holland condemning in the strongest terms the habit of burial in temples and churches. Cremation has been advocated by many modern sanitarians and scientists. In 1874 Sir Henry Thompson said "no dead body is ever placed in the soil without polluting the air, the water and the earth around it." Scientists and sanitarians have confirmed Thompson. The germ theory of disease goes to prove the pollution. No one knows the longevity of some germs, Pasteur demonstrates that earth worms brought to the surface germs from a diseased sheep that had been dead ten years.

"Give warning to the world that I am fled

From this vile world with vilest worms to dwell."

The epidemic of cholera in London in 1854 was attributed by sanitarians and scientists to the uprooting of an old cemetery in which was buried the victims of the plague in 1665. While searching for the cause of a recent epidemic of yellow fever Dr. Domingo Feiri found the soil of a cemetery, where the former victims of yellow fever had been buried, abundant evidence of the germs of yellow fever. Why multiply cases when scientists, sanitarians and the more intelligent laymen admit the dangers of burial and the longevity of some germs. The burial of those who die of contagious disease should be prohibited by law, cemeteries are no longer located in cities, but are located at a distance from cities and towns that the earth, air and water may not be polluted.

Cremation is only reducing the human dead body to harmless ashes—to dust—to its natural element in a few minutes in lieu of a few years, according to the moisture in the earth. The grave digger in answer to a question of Hamlet says "Water is a sore destroyer of dead bodies."

It would seem some base their opposition to cremation on the religious belief of the resurrection of the body. There is neither sense nor argument to the belief, it has no foundation other than the prejudice and ignorance of the teaching of early life. Some bodies are devoured by wild beasts. Many of the drowned are supposed to be food for fishes. The parsee give all but the bones of their dead to the birds.

Many make the burial of the dead a matter of commerce. Not only do corporations, but societies own cemeteries. Owners or directors are not supposed to recommend cremation. Nor do undertakers. Cremation will never be a popular method of disposing of the human dead body, until crematories are independent of cemeteries and adjoining these must be a beautiful columbarium, where the ashes of the cremated can be preserved, and a chapel for religious ceremonies, with rooms for friends, for post mortems, etc.

Physiotherapy

(Concluded from page 258)

No effect is obtained upon the disease as such. The results are often gratifying, but do not guarantee against recurrences any more than would any other kind of local treatment. Its use is simply to be regarded as another string to the therapeutic bog, and is mentioned and without any implication of enthusiasm.

Infectious and Non-Infectious Granulomata

Radium seems to have no field in the management of cutaneous infections or in the treatment of non-infectious granulomata such as mycosis fungoides and related conditions. In the latter, however, in the so-called formes frustes, that is in isolated lesions arising atypically and without prodromata, I can see no good reason why radium would not be of value, employed as in epithelioma. On the other hand the X-rays are of admitted value and there would seem to be no purpose in resorting to radium in these conditions.

Benign Epithelial Growths

Lesions in this group are the various types of ordinary warts, papillomata and sebaceous and dermoid cysts. Warts respond well to the use of radium in over half the cases that are so treated. From five to ten milligrams on a plaque or in needles are applied for from one half to three quarters of an hour with one to three millimeters of aluminum used as a filter. Usually one application will suffice. In cases in which the nail bed is involved the method is ideal when it proves successful, for cauterization and the like are extremely painful at this site, and the X-rays do not work very well. If the radium should fail other methods of treatment may be used, nothing having been lost but time, and a perfect cosmetic result and painless treatment having been assured the patient in case of success. The plantar wart responds similarly well, and in both of these types of lesion the probability of success is enhanced by using salicylic acid plaster for a week before the radium in order to soften the surface. Radium has no value in juvenile warts.

Papillomata, both of the skin and mucous membrane, may be similarly treated with a similar degree of success, an excellent way of applying radium being the implantation of emanation seeds. In mucous membrane papilloma the diagnosis must be made with punctilious certainty because of the possible risk of confusion with epithelioma.

Small sebaceous cysts, and the sinuses surviving incompletely removed lesions of this type, respond well to radium applied for a half hour at a distance of a centimeter without other filtration. Five to ten milligram applicators should be used and the exposure repeated in three weeks if involution is not complete following the first treatment. I have treated five such cases with success. A small bronchiogenic cyst to which a short bent tract was attached seems to have responded to similar treatment. MacKee in a personal statement mentioned that he had had a similar experience in the X-ray treatment of sebaceous cysts some fifteen years ago but had not recently had occasion to check up on his early experiences or to use radium for such cases. Other types of epithelial neoplasm have not yet been studied in connection with radium therapy.

Malignant Connective Tissue Growths

This group of conditions includes the sarcoma and might include the non-infectious granulomata already mentioned. For the sake of convenience the melanoma may also be considered under this heading. In all of these conditions radium treatment would be carried out

as described for epithelioma. The indications, contraindications, technic and the like correspond to what has been stated about epithelioma. The prognosis is not quite so good, however, but fortunately these conditions are encountered considerably less frequently than are epithelial growths.

Benign Connective Tissue Growths

The important conditions to be discussed under this heading are fibroma, keloid and hypertrophic scar. Fibromas do not seem to respond to radium. A relatively small proportion of keloids and hypertrophic scars do. In treating these, small plaques of from five to ten milligrams are applied with a filtration of from one to three millimeters of aluminum, for from one half an hour to an hour according to the volume of the lesions. The younger the lesion the more likely it is to respond to radium, but it does not seem wise to make more than four applications or to reduce the intervals to less than three weeks.

Miscellaneous

There is very little to add as to the value of radium. The late Dr. Heidingsfeld employed this element in the treatment of hirsutes, but it hardly seems to be an ideal remedy for this condition. Localized areas of itching have also been subjected to radium without particularly brilliant results. In short, radium is useful in the treatment of epithelioma, certain nevi, ordinary warts and probably in small sebaceous cysts or their sequelae. It is of some value in some of the benign as well as malignant connective tissue growths. Likewise some of the simpler inflammations yield to it. So far as dermatology is concerned radium may be regarded as a valuable supplement to the X-rays.

780 Madison Ave.

Dr. Richard Bayley

(Concluded from page 256)

It may be assumed that in the New York of his day he probably numbered among his patients members of such notable families as the Astors, Vanderbilts, De Puysters, Schuylers, Brevoorts and Livingstons; perhaps Washington Irving himself. His distinguished place in the profession, his versatility, and his social intimacy with the "haute noblesse" who were his neighbors near the Battery justify this assumption.

Deeply imbued with eighteenth-century culture, a good clinician, a distinguished teacher, an excellent operator, a man of affairs, an executive, and a sanitarian of high achievements, Bayley ranks well in a day which was witnessing the rapid development of scientific medicine in every quarter of the globe. His personal character made him a happy exception to the rule of severe treatment of Royalists by their fellow Americans, which exemption was also due to the fact that he often saved the lives of fellow citizens and protected their property against confiscation or destruction through his influence with the several commanding British officers. Nevertheless he has suffered somewhat at the hands of our medical annalists, something which in this day we can afford to reverse.

Of particular interest is the fact that the second daughter of Doctor Bayley, Elizabeth Ann Seton, a convert to the Catholic faith, became the foundress of the American Sisters of Charity, and in all probability will become the first saint accredited to this country, the first four steps requisite for beatification having been completed at Rome. Like Joan of Arc, she is to be venerated for good works glorifying her among Protestants as well as Catholics.

Doctor Bayley died of typhus fever incurred in line of duty in 1801. He is buried at Richmond, Staten

Island. The inscription upon the low white marble tablet which marks his grave runs as follows:

IN MEMORY OF DOCTOR RICHARD BAYLEY OF NEW YORK

Who, after practising the various branches of his profession
With unwearied diligence and high reputation
For thirty years in that city,
Projected a plan, and for five years conducted a
Lazaretto on this island.
Intelligent in devising and indefatigable in pursuing plans
Subservient to the cause of Humanity
He continued to guard the Public Health with
Persevering Industry
And in the midst of dangers to perform with
Invincible fortitude the hazardous duties of Health Officer,
Until in the discharge of this important trust
He was seized with a Malignant Fever, to which he fell
A Lamentable Victim
And thus terminated a life of great usefulness,
On the 17th of August, 1801,
Aged 56 Years.

115 Johnson Street.

Nonspecific Immunization

(Concluded from page 255)

secretion produced by the provocative intracutaneous injection should be carefully examined about 10 to 20 hours after injection in cases where the leucocytes have increased, to determine the presence of gonococci, as this very increase of leucocytes indicates that there still is a focus of infection in the body. In healthy persons even repeated injections of protein will not increase the number of leucocytes in the mucous membranes of the urethra while in those harboring an infection the properties of immunization inherent in the organism will be stimulated to greater activity, the visible indication of which is renewed secretion.

A few words remain to be said on the occasional febrile reaction following the administration of toxin free preparations. An explanation will be found when considering the character of nonspecific therapy. Fever is present as long as a suppurative affection continues to resorb toxic products at the site of infection which are eliminated through the circulatory system in general. This latter process may be interrupted without complete resorption having taken place (buboes, prostatitis, etc.). When the immunizing properties of the body are stimulated by the administration of nonspecific, toxin free substances with the result that this secretion is again increased, the renewed activity of the immunization centers may produce the local effect and an elevation of temperature. These symptoms are of course absent, if injections are given to healthy persons so long as the agent is toxin free and when after injection no products of resorption (as in gonorrhea of the mucous membranes) enter the circulatory system.

It was our purpose to give a short resume of recent investigations in the field of protein therapy and to make clear the restrictions advisable in the application of this modern method of treatment. From the above the practitioner will conclude with the author that nonspecific protein therapy is indicated only in conditions where there is a local or a general, a visible or a hidden focus of suppurative infection.

Conclusions

1. Non-specific protein therapy as the result of clinical experiences both at home and abroad is entitled to a place in medical practice.
2. Toxin-free milk and milk derivatives are the preferable agents with which to accord this treatment.
3. There are two avenues by which this treatment can be administered:
 - a. intramuscularly, preferably in the gluteal region;

b. intracutaneously, preferably in the skin of the forearm.

4. The purpose of such treatment is to stimulate the myeloid (bone-marrow) system with a view to creating an increased flow of leucocytes to an infected point or area.

2039 Broadway.

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Public Health

Dealing with the Venereal Disease Problem

The time honored adage that "An ounce of prevention is worth a pound of cure," has no more fitting application than to the great public health problem of syphilis. The inertia of the public must be overcome and unreasoning prejudices must be supplanted by accurate information. The moralistic misconception of the venereal disease problem are responsible for a tremendous amount of social damage. The idea that every syphilitic is a roué and a social outcast is as fallacious as it is unkind. These erroneous ideas prevent the proper appreciation of the fact that no less than ten per cent of all leucics suffer from non-genital and innocent types; that thousands of innocent women suffer from lues, and that thousands are syphilitic because of the laws of heredity and congenital transmission. The belief that it is a visitation for sexual immorality has retarded the control and prevented, in a very large measure, the eradication of the venerable plague. We must place syphilis on the same level as we do other diseases and fight it in a safe, sane and scientific manner, free from metaphysical conceptions and dicta.

The public must be so educated in the matter of eugenics that the laws with regard to venereal disease which now exist as dead letters on our statute books, will be enforced; that health certificates will really be required before marriage; that the physician will be permitted to give to the marriage license clerk information that will prevent the marriage of a contagious leucic, without being haled into court on the ground that he has given away confidential information; that marriages may be annulled when a leucic deliberately enters matrimony, deceiving his mate as to the presence of his venereal disorder.

Sex hygiene should be taught the child, the youth and the adult. The dangers of venereal disease must be brought again to the attention of the public until it is so aroused concerning the matter that it will take the necessary steps to correct the evils resulting from prostitution.

There is a group of persons within the social organism which is governed in its sexual life by idealism and not by fear. Therefore a positive idealism must always be taught concerning sex life. There is another group whose conduct is entirely regulated by fear, and to this group must be preached in forceful terms the dangers of illicit sexual relations. There is a third group that is not controlled either by fear or sexual idealism and responds to the sexual urge irrespective of the possible consequences to themselves or to others. It is therefore imperative that physicians, health departments and communities use all agencies in their power for the relief and prevention of venereal diseases.

Our social institutions are by no means perfect. Society continually places temptations in the way of the morally and mentally weak. We are responsible at least to some degree for the existence of environments which stimulate vice and furnish the facilities for its successful progress, and it is obvious that these

conditions very effectually reduce the effects of our moral preachments.—(*Social Pathology*, Vol. I, No. 1.)

Sex Delinquency

Out of the vortex of the World War came a realization of the necessity of education of the laity on the subject of sex delinquency and of reconstructive work in this field. To bring about a coordination of the functions of the police and the courts, was the first step. A plan was evolved for the cooperation of the different agencies concerned, and for the closest coordination in effect. It is generally understood that persons who are a menace to the public because of a communicable disease, or because of gross moral delinquency that makes them dangerous to the community, are placed in what is known as detention quarters. The management of these detention facilities has often been a drawback particularly since policies materially differ according to the resources of the community. It does not seem possible, for this reason, to follow any one definite method. However, every community should appreciate that it is responsible for the health and welfare of its citizens. Those directly responsible should realize that communicable diseases are a menace to the public. Every community should provide means for adequate detention of those infected with any communicable disease and also should give attention to preventive methods.

Different measures of dealing with all of the communicable diseases have been devised and have been practically followed except in the one group of venereal diseases. By reason of the peculiar conditions surrounding this group it has been difficult to carry into effect the methods devised for dealing with it. At the base of the difficulty is social hygiene in its connection with vice conditions. The need of organization in handling these conditions is, therefore, of primary consideration.

The reclaiming of the wrong-doer for the protection of society is fundamental. To accomplish this it is needful to have a knowledge of the kind of human being we are dealing with, in addition to application of intelligent treatment. The human equation must be understood, Psychology and sociology should be applied in considering physical, mental and the emotional elements involved.

Institutional or probationary control are often resorted to solely to best serve the individual and society. When educational treatment of delinquents and pre-delinquents will have gained its rightful basis, the institutional or probationary control will be made almost unnecessary. A standardization of the work of rehabilitation of sex delinquents is indissolubly bound up with preventive work.

Few officials dealing with courts and sex delinquents have had a wider experience in this work than Lieut. Van Winkle, Director of the Women's Bureau of the Metropolitan Police Department, District of Columbia.

In a conference with Lieut. Van Winkle on the subject of some of the perplexing problems confronting the nature of her work, she asks the following one for a solution. Our readers are requested if they feel inclined to do so, to aid in the expression of any method which might be made applicable to solve it:

"If you take from a young woman who is a sex delinquent the social pleasures and satisfaction resulting from a pleasurable mode of living as offered in a comfortable hotel or high grade apartment, earning of easy money, motor rides, appetizing food, the company of men who stand high in business and financial circles, what can be substituted to cause her to voluntarily relinquish these?"

While this article deals mainly with rehabilitative measures, some words on prevention almost force themselves upon us. Should we not look first to the parents who have neglected the early training and have thus occasioned delinquency? A home and educational foundation is lacking. Herbert Spencer says, "The brain should not be starved any more than the stomach. Education should begin in the cradle, but in an interesting atmosphere. The man to whom information comes in dreary tasks along with threats of punishment is unlikely to be a student in after years, while those to whom it comes in natural forms at the proper times are likely to continue through life that self-instruction begun in youth." Hence parents should be the first educators.

Next to parental influence is that of the teacher. If the youthful training has a firm foundation, the task is a more easy one since conditions have been shaped by a guiding hand. "As the twig is bent so the tree inclines."

In no kind of work does cooperation show more advantageously than that between parents and teachers. The equipment of educational knowledge is facilitated by home training, when practical knowledge can be gained in a wholesome way without reservation. Rabbi Abram Simon of Hebrew Temple of Washington states that the day is not far distant when to graduate a child from public school, or confirm a child in a church

without giving him sex instruction parallel with his religious instruction so that he may know the sacredness of the sex function and the sacredness of his own body and that of the woman he is going to marry, will be considered a crime.

Lieut. Van Winkle further states that fully two-fifths of all the delinquent cases handled by her come from apparently good homes. Moreover, in the first year of the existence of the Women's Bureau, in 1916, for a careful study of delinquency, Lieut. Van Winkle took 2,500 cases reported by police precincts. At this time there were only five police women, two of whom were assigned to department stores as detectives. She was handicapped in the work owing to insufficient numbers of police women. She picked out 666 of the best and most promising cases, girls who were first offenders and showed favorable possibilities of reform.

With a second picking over, that was deemed advisable, 120 of these girls were selected, over seventeen years of age. They represented those of whom the parents could not deal with, or those who would otherwise have gone to institutions. For this reason they were selected. Had there been sufficient evidence against them they would have had to go to court and be tried and convicted. But there was insufficient evidence against them to prove a case, even though it was known they were prostitutes from their own admissions, after their arrest. In one offense, usually for fornication, there is a penalty of \$25 which can usually be paid, and the party leaves. It was Lieut. Van Winkle's desire to adopt measures for the rehabilitation of these girls. Then, too, she desired to know if social work should be permanently established to effectively keep in touch with such girls. There are now 113 of these delinquents with good records after a period of five years. It was found necessary to institutionalize seven of the second selection. Lieut. Van Winkle says that due consideration should be given to the handicap she encountered at the inception of her work. She did not then have the unbiased support of the community as she has today. When the support from public opinion is lacking, desired results can not be attained.

The adjustment of delinquents guilty of a first or second offense is not so difficult. When the scales have fallen from their eyes and they begin to weigh the consequences of ostracism, the sacrifice of health, the banefulness of promiscuous sexual intercourse, the risk of a venereal disease and the general dissatisfaction incident to sexual error, a reasonably intelligent girl will grasp the opportunity for reform, while with the hardened wrong-doer such appeals are almost without exception in vain.

The placing of the young offender with the hardened wrong-doer of more mature years, is surely unjustifiable. Yet because of inadequacy of detention facilities this method is practised in many communities.

Housing and recreation bear an important part. Frequently vice is perpetuated through vicious living conditions and where poverty often occasions the herding of people into crowded spaces. The unprotected girl of low environment will show lack of restraint, lack of environment, lack of balance and lack of common sense. The question has been asked, "Can we make a satisfactory combination of both the sanitary and moral sides of sex education? The rehabilitation of women, girls and boys cannot be effected until suitable facilities are provided. That defective sanitation increases immorality is obvious, but until we adopt means to cope with the situation more forcibly than we are doing, the development will be hindered. Apropos to this question, an excerpt from *"The Lancet,"* July 28, 1923, in an article titled "Environment and Health" is given. This article was published following an address rendered by Charles P. Childe, F.R.C.S. Eng., Senior Surgeon Royal Portsmouth Hospital. It was the Presidential Address delivered at the Annual Meeting of the British Medical Association in Portsmouth, July 24, 1923:

"Let me invite your attention in the next place to venereal diseases, which have figured so largely in the public eye during recent years, are discussed in every drawing-room, exhibited at every picture-house, and with regard to the most suitable methods of controlling which there are acute differences of opinion, both among medical men and the lay public. The contributing environmental factors here is the indiscriminate admixture of the sexes of all ages, a necessity of their living conditions. It is not, of course, contended that by an improvement in housing immorality would be stamped out, but it is contended that the conditions of overcrowding, without regard to age or sex, which exist in our industrial centers make the practice of morality wellnigh impossible.

"Let me put before you a few facts; they are taken from the report of Dr. A. K. Chalmers, the medical officer of health for Glasgow, for 1921. There is no intention to single out that city as a sink of iniquity, or an example of a condition of things peculiarly revolting to the conscience of civilized humanity, and I have very little doubt its case could be paralleled in our own

borough of Portsmouth; but I have the facts for Glasgow, and I have not similar facts for Portsmouth. In Glasgow, out of a population exceeding a million, over 600,000 live in one-roomed or two-roomed tenements. Under the heading "Sex overcrowding in small houses," Dr. Chalmers gives the following appalling examples:—

"In a one-roomed house a father of 52 occupied the same bed with a mentally defective daughter of 24, who had an illegitimate child of 10. In another, with space for five adults, a father and daughter shared the same bed. In another a mother shared the same bed with two sons of 19 and 20 years respectively. In two-roomed houses, in one instance a son 19 and a daughter of 21 occupied the same bed; and in another a son of 19 and a daughter of 25, who was pregnant."

"However revolting these facts may be, it is right that the public should be made aware of them. This, then, being the example of the state of affairs in our industrial centres, it may be confidently stated that a great deal, at all events, of immorality and its consequences, venereal disease, is the direct result of environment—that the conditions existing make either the teaching or practice of morality impossible, and furnish the breeding ground for venereal disease.

"Have we not, it may be asked, missed one phase of the problem, and are we not somewhat out of touch with the situation, with our societies for the prevention of venereal disease and for combating venereal disease quarrelling amongst themselves as to the best means of meeting the evil, and local authorities and the lay public equally divided, when conditions such as I have depicted are rampant in our midst? It is this aspect of the problem—the immorality and its consequences, venereal disease, which are the direct result of over-crowding without regard to age or sex—which I wish to lay particular stress upon here."

A socially-alive public will also awaken to the desirability of recreational facilities. The need of living an outdoor life in a community whose only purpose is helpfulness and development should arouse a means of practical correlation with the need. Many communities, realizing that most constructive methods for the use of the leisure moments of its inhabitants call for the provision of supervised wholesome recreation, have arranged facilities for athletics, games, plays, music, dancing, etc. The impulses and energies of youth that might otherwise find undesirable expression thus find correct channels of outlet. Community work where camp fire organizations, boy scouts and girl scouts have been formed should experience from this work a diminution in juvenile delinquency. The practicability of golf is shown in the lessening of tension and strain upon the business and professional people and giving to them the outdoor exercise that one's system frequently requires. Though business may occasionally suffer thereby from a financial outlook, from a point of health, the result is good.

The unadjusted girl today must be taught how best to find herself. This will prove difficult, for her start has been wrong and has given her a warped impression of life. Because failures in a fair percentage of cases of delinquency have led to scepticism, is no reason for deterring from renewal trials and efforts leading to further analysis and intensive study in this direction. Lieut. Van Winkle has shown in her study of the 120 cases from the results obtained that not all delinquents are unreformable. Efforts in this direction should actuate right thinking men and women towards the perpetuation of a better and healthier citizenship.

Adjustment constitutes a problem. The great category of failures may reasonably be attributable to character that is undeveloped or illdeveloped. Aristotle wrote, "Neither is it clear whether education is more concerned with intellect or with character." It has been pointed out that the development of the child's character should be first sought, and the growth of the intelligence will follow.

Women, especially those who are really interested in social progress, can through careful study and attentive observations, from a broad point of view, render to mankind an invaluable service by their cooperation in the work of character rehabilitation. This work offers, too, an immense scope to all private and public agencies organized to do preventive work which should, of course, include the police.—(*Social Pathology*, Vol. I, No. 1.)

Social Pathology Appears

The United States Public Health Service, under the auspices of Assistant Surgeon General Mark J. White, has issued the first number of *Social Pathology*. This publication is to be supplied to organizations of laymen whose purpose it is to check the spread of venereal diseases. The foreword by the editor, Dr. Daisy Robinson, concisely sets forth the motive of this newest arm with which to combat the social evil, is couched in excellent language and is a most clarid exposition of the aims of its sponsors.

The special articles in Vol. 1, No. 1, make excellent reading matter and will supply health departments, women's organizations, juvenile courts and other like centers interested in the venereal problem with an abundance of material that should prove useful to them.

Surgeon-General Cummings and Asst. Surgeon-General White are to be congratulated upon having secured the editorial service of Dr. Robinson for this particular work. Her broad experience throughout the United States, coupled with her extensive knowledge gained through study in European centers, fit her most admirably for every phase of syphilology and of venereal conditions. Moreover, she wields a facile pen which has been used to portray her views to medical groups as well as to laymanistic organizations striving for methods whereby the public is to be safeguarded from the evils which *Social Pathology* is designed to modify and, if possible, terminate.

Social Pathology is welcomed as a splendid addition to the armamentarium of medicine and of social uplift.

Physicians more than members of any other profession have contributed fame in the world of literature. Oliver Goldsmith, Tobias Smollett, John Keats, John Locke, Sir Thomas Browne, Erasmus Darwin, Benjamin Rush, Oliver Wendell Holmes and S. Weir Mitchell were all physicians. Among the present French writers are Georges Clemenceau, Paul Bourget, Jean-Louis Faure, Henri de Rothschild and Georges Duhamel are well-known examples.

How People are Blinded

The explosion of a pipe into which a cartridge had found its way with the tobacco; a wound from the fin of a fish, an eye-shade catching fire; a peck from a pet rooster held in the lap; a jab in the eye from the horn of a cow; these are some of the causes of 279 serious eye accidents reported to the National Committee For the Prevention of Blindness during the month of August.

This, according to Lewis H. Carris, managing director of the Committee, is undoubtedly merely a fraction of the total number of eye accidents which occurred during August as there is not at present any means of ascertaining the total number of such accidents. The National Committee has just undertaken a progressive nation-wide census of eye accidents, the August accidents being the first returns in this census. The purpose of the census is to determine what are the principal causes of accidental injuries to the eyes—injuries which are now adding thousands to our blind population yearly—and the means of eliminating those causes.

Of the eye accidents reported during August, 247 destroyed or seriously injured the sight of man and boys and only 31 affected the eyes of women and girls. There were 45 serious eye accident to children, 37 occurring in play. More than a third of all the accidents reported occurred in industrial occupations. Included in the latter group was the injury known as "Klieg eyes" which occurred to Jack Talmage Keaton, the one year old son of "Buster" Keaton, whose eyesight was affected by the lights used in his father's motion picture studio.

Reward Dr. Banting with Professorship

Dr. F. G. Banting, discover of the insulin treatment for diabetes, has been made a Research Professor at the University of Toronto, and is to have charge of the administration of a special reserve fund for the carrying on of further experiments under the provisions of a bill recently introduced in the Legislature known as the Banting and Best Medical Research, Act which calls for the annual payment of the sum of \$10,000 to the governors of the University of Toronto, who are to set it aside as the "Banting and Best Fund" for the amelioration of the suffering of diabetics. So long as Dr. Banting is Research Professor he is to be the sole administrator of the fund. The university authorities have equipped the old Y. M. C. A. building on the university grounds as a place where insulin will be manufactured. The sum of \$25,000 is to be devoted to the purchase of equipment and installation. With the new equipment installed, the Government has been assured by the Connaught Antitoxin Laboratories that a reduction will be made in the price of insulin and that it may be sold at practically cost price.

Gas Poisoning

Gas poisoning was the subject discussed by Dr. Matthias Nicoll, Jr., State Commissioner of Health, in a radio address broadcast from the General Electric Company's Station WGY at Schenectady.

"It is at just this time of year," said Dr. Nicoll, "that we begin to see newspaper accounts of people being overcome or dying from gas poisoning. Such accidents are of common occurrence all during the period when it is necessary to supply artificial heat in our homes. In Ohio last winter there were

sixty-nine deaths and one hundred and thirteen partial asphyxiations from gas poisoning. What are the dangers, and how can they be avoided?

"As the weather gets cool, we close our windows and seek some method of supplying a moderate degree of warmth without starting our stoves or heating systems. Later we seek auxiliary ways of bringing up the temperature of our rooms quickly in the early morning. To meet this demand, manufacturers have placed on the market many different kinds of gas heaters. Reputable concerns selling such apparatus give careful directions as to how it can be safely installed, but all too often gas appliances of this kind are sold by persons who know little and care less about what may happen after the article leaves the store. A short explanation of what takes place when gas is burned will help us to understand what the dangers are and how they may be avoided.

"When artificial or natural gas is burned completely, that is, given sufficient oxygen for complete combustion, carbonic acid gas (also known as carbon dioxide) is formed. It is not dangerous in small amounts; in fact it is the same gas that is thrown off by the lungs in breathing, so that there is always a small amount of it in the air of crowded halls, theaters, churches, lodge rooms, and other indoor gathering places. Of course if you stayed in a tightly closed room into which carbonic acid gas was being constantly thrown off, you might smother after a while, but long before that time came you would feel oppressed and stifled and would naturally seek fresh air. Even when a person is overcome with this gas, he revives very quickly in the open air with no apparent ill effects. On the other hand, when gas is burned with only a limited supply of air or if the burning gas strikes a cold surface deadly carbon monoxide gas is formed. This gas when breathed acts quickly; so quickly in fact, that persons are often overcome before they realize that they are in danger. Even if they realize it and try to reach the open air, they may become unconscious before they can get to the door. Moreover, once a person has breathed in a lot of this gas he does not recover at once in the open air, but may be sick for hours or days or may not recover at all. This is because the monoxide actually combines with the red blood corpuscles and prevents their giving oxygen to the tissues of the body. When and under what conditions is carbon monoxide formed?

"Gas heaters are of two kinds: the luminous or bright flame and the non-luminous or blue flame type. In the former no air is mixed with the gas until it is burned. With this kind, combustion is usually complete unless the flame comes in contact with a cold surface in which case carbon is deposited, and reduction of some of the carbonic acid gas to the deadly monoxide is liable to occur. In the non-luminous or blue flame type combustion is complete so long as sufficient air is supplied at the mixer and the flame does not come in contact with a cold surface. Trouble may arise through an uninformed person tampering with the air adjustment, but is more often due to the flame hitting some part of the apparatus purposely or otherwise. In the latter type of heater the only safe rule is to have a flue connection to carry off the products of combustion. What has been said regarding heaters applies equally well to gas logs, gas radiators and gas water heaters. The latter should always have flue connections because carbon monoxide is sure to be formed in large quantities when the hot flame strikes the copper coils chilled by the water they contain.

"Artificial or illuminating gas before it is burned is poisonous in very small amounts. Therefore see to it that there are no gas leaks in your home, and notify your local company immediately if the characteristic odor of gas is apparent in any room. Flexible gas tubing rapidly becomes porous. It is far safer to have all gas connections made with metal pipe.

"There are a number of other ways in which gas poisoning may occur; ordinary coal stoves and ranges will throw off a dangerous amount of carbon monoxide if draughts are closed too tightly following the addition of fresh coal. Gas burners left lighted but turned low and gas pilot lights may go out if the gas pressure decreases sufficiently. Then when the pressure again increases unburned gas is thrown into the room and may not be detected quickly enough to avoid accidents, particularly during the night time. Never go to sleep in a closed room when there is a lighted gas burner, and never install a gas water heater in a bath room.

"Perhaps the most common condition resulting in gas poisoning, in recent years, at least, has been brought about because people have not realized that carbon monoxide is present in dangerous quantities in the exhaust from gasoline engines. No work should be done in closed garages with the automobile engine running.

"Gas is used by over one-half of our population. Safety from gas poisoning depends on your observing the warnings which have been given in this health talk and in always taking pains that there is sufficient ventilation in the place or rooms where you are working, living or sleeping."

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The Lancet's 100th Anniversary

The MEDICAL TIMES proffers its felicitations to Great Britain's oldest scientific weekly, the *Lancet*, upon the occasion of that journal's one hundredth birthday.

Founded in 1823, the *Lancet* played a great part in announcing and securing the practical application of many of the most momentous discoveries of medical science. It has always been in the forefront of reform movements, has aided effectively in the suppression of quackery, and has had a great influence in preventing the adulteration of food and drugs.

The *Lancet's* particular identification with such innovations as anesthesia, antiseptics and bacteriology is familiar to every educated physician.

We respectfully salute this famous repository of the wisdom of the healing profession.

Veiled Eugenic Truths

It sometimes seems to us that altogether too much is inferred from the lugubrious family histories that the eugenists are so fond of detailing. They look pretty bad to the unsophisticated, meaning by the unsophisticated those who know little or nothing about genealogical research, and it is hard to see, from the hard-boiled eugenic point of view, how the present-day representatives of these "tainted" lines can be anything but degenerates.

What we mean is this, that to the sophisticated these queer lines are rather meaningless, since genealogical research shows that some of the most distinguished persons now living have had very crooked ancestry, from a eugenic or any other point of view. We are not going to give any of these esteemed citizens away, merely to prove our point, but we appeal to the reader not to be

too much impressed by the dreadful family histories aforesaid, which may possess less sinister implications for present-day representatives than the eugenists fancy.

We do not know whether the eugenists make their own genealogical researches, or whether they employ professional workers; that is, when working up so-called degenerates' lines. If the professional worker is employed for a specific search, and is not called upon to tell what he or she knows about the strange deeds of our distinguished friends' ancestors, then of course nothing happens to enlighten the eugenist. If the eugenist makes his own researches, they will probably follow only those lines in which his special interest lies, and again nothing may happen to enlighten him. In so far as such work follows either of the methods alluded to, and does not go far afield in its study of ancestry from a catholic point of view, it is grossly unscientific.

It will probably be said that certain remarkable lines, without apparent flaw or taint, cited by the eugenists, go to prove that they have gone far afield. These few lines would certainly seem to show that some eugenist has delved long and faithfully, for such lines are rare. But if there have been such students why have they not dared, or been permitted, to publish all their data?

What makes us feel resentful is the failure of any eugenist known to us to report all the facts; in other words, the dubious ancestry of some of our finest people. This could have been done in such a way as to satisfy scientific requirements without outraging the proprieties. Until this is done the so-called science of eugenics ought to stand discredited.

And there is still another side to the matter, not by any means exploited by the eugenists. One of the most sinister figures in our public life to-day is the scion of a line than which there is probably none better in all the annals of American genealogy.

Eugenists, more than any other class of "scientists," seem to select their facts to fit their theories.

Social Origins of Disease

Guy's Hospital Reports recently carried an article by Dr. J. M. H. Campbell, in which the fact was adduced that chlorosis is a disease which is rapidly disappearing, both from Europe and America.

We think that this finding coincides with the practical experience of men on this side of the water.

The phenomenon is accounted for on the score of the greater amount of exercise enjoyed by women to-day, and the more ready availability of fresh air.

The change began about the beginning of the present century, in other words when outdoor life and regular exercise were demanded for school girls and women more insistently.

Improved conditions of employment have also to be taken into account, as well as better feeding, in explaining his phenomenon.

We have always had a feeling that pernicious anemia is in some way bound up with our lagging civilization.

Rationalized Hygiene: A Forlorn Hope

The experts are agreed that no further material reduction of the general mortality is possible without a more intensive application of the principles of personal hygiene.

There is more than this involved, however, in the problem. For example, there is a fallacy in assuming that general principles can always, or in a majority of cases, be individually applied; and again, the general principles themselves change from time to time. As proof of the former statement, we might cite the benefits of moderate alcohol consumption in not a few individuals. It is both

immoral and unscientific to teach the utter harmfulness of such consumption under any and all conditions. Alcohol may frequently be a large factor in promoting longevity and mental and physical well being. As proof of the latter statement, we might cite the recent teaching regarding the relative harmlessness of vitiated air provided it is kept in motion, and also the new teaching with respect to the injuriousness of deep breathing, which not so long ago was lauded as a panacea.

We should say that the trouble with the hygienists is that they are obsessed with the idea of standardizing the people with respect to keeping well.

It is one thing to reform rigorously our spelling and set up correct and fixed orthographic standards, but when it comes to reforming human beings it should be borne in mind that some folk ought to be beguiled into what would be sinful and damaging for others.

But, alas! the professional reformer can never be induced to see problems from such an angle.

We are to-day so much in the hands of narrow propagandists of all kinds that there is absolutely no chance of rational procedure. Therefore any further material reduction of our mortality rate, much as we should wish to see it, is hardly to be looked forward to with any assurance. If it does come about it will be because of more or less fortuitous determinants.

A Reduction to Absurdity

At the recent meeting of the British Association, Dr. Cyril Burt made his presidential address before the psychology section on the subject of the "Mental Differences Between Individuals." He argued that just as some men are too dull for their jobs, so others are too clever. A certain minimum of intelligence exists for every type of employment, but there is also an upper limit of intelligence that should not be passed. Hence, Dr. Burt submitted that in the interests of the employer and of the employment, as well as of the employee and the general community, it was well not always to pick the brightest candidate who applied for a given job. The worst misfits arise not from forcing round pegs into square holes, but from placing large pegs in little holes and small pegs in holes too big for them.

This seems to us "farthest north" in suggested applications of intelligence tests.

There are certain zealous proponents of the intelligence tests who from time to time give us unwitting demonstrations of their own mentality.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

Dr. Work on the Moron Menace

In addressing the Medical and Chirurgical Faculty of Maryland at Easton, Dr. Hubert Work, Secretary of the Interior, expressed the belief that rapid multiplication of adults with child minds is the greatest danger confronting the nation.

Dr. Work urged that criminal propagation be minimized so as to effect a limitation of crime. He attributes crime to immature and ailing minds. Similar measures would diminish insanity. Crime was defined as the result of a moron's concept of civil customs. Dr. Work continued:

"The bootlegger, the hooded lyncher, the petty gambler, the unprovoked murderer, the syndicalist, all have abnormal conceptions of their relation to that which is established and to normal conception of right.

"To limit crime we must minimize criminal propagation, and by the same token we would diminish insanity, for they are kin.

"When men deteriorate, moral responsibility fails, the enacted laws become inert or the enforcement of existing law is evaded. Each in turn marks a step downward from our present high position of supremacy among nations.

"It is a travesty on justice, on the theories of a State government's responsibility, and to the present-day ideals of what should constitute human relations, that almshouses, jails and county farms continue to house those whose only offense is mental sickness."

Monkeys and Specialists

At the recent meeting of the British Association, Professor Elliot Smith discussed the early differentiation between man and the monkeys. The monkeys are more specialized than man. "In adaptation to their particular mode of life they had lost many primitive characteristics which he had retained, but at the expense of losing plasticity and adaptability." The *New York Times*, in commenting upon this deliverance of the Professor, remarks: "In other words, the monkeys became specialists, lost the open mind, and thus remained monkeys. The lesson is not without value for human specialists."

Diagnosis and Treatment

Treatment of Vertigo with Adrenalin

Barbazan reports a series of very successful results. He calls particular attention to the cases of a young woman of 20 years of age attacked with deafness, buzzing and giddiness, and that of a man who presented these symptoms in a very mild degree, but very persistently. A treatment for from four to five weeks relieved him completely of his symptoms, which had persisted for over two years.

Barbazan gave the drug by the mouth, and declares against the opinion that this method would be unfavorable to the action of the drug. He recommends that the dose should be taken some while from a meal; a good half-hour before, or a long time after, and without combination with any other drug.

He insists that the necessary doses are far from being the infinitesimal amounts too often used. In order to obtain the desired effect, it is necessary to give from ten to twenty-five drops twice a day and sometimes more. Failure is certain when too small doses are given. One patient had been taking three drops a day without effect, and the treatment was given up. A lasting cure was obtained by giving 20 drops a day. Adrenalin should be kept in colored flasks, for it is affected by light.—(*Jour. des Prac.*, May 26, 1923.)

Treatment of Pleuritic Effusion with Calcium Chloride

Krummenacher reports some personal observations on the diuretic action of the salts of potassium and of calcium. Calcium chloride, in inflammatory affections of the serous membranes, not only sets up an absorption of the effusion, but has an effect as well upon the temperature.

He advocates the institution of a dechloridized diet before the administration of calcium chloride, which he has given in doses varying from 11 to 22 g. He gives from one to two spoonfuls of the concentrated solution—30 g. of the dry granulated salt in 100 g. of water—in a little coffee and milk and to drink some mouthfuls of the coffee and milk afterwards.

If the intravenous method, in certain cases, can have immediate and lasting effects, in the subacute or chronic cases administration by the mouth seems to be more efficacious, because it allows of a prolonged introduction of the calcium.

As a general rule, treatment by calcium chloride frequently allows the avoidance of tapping, and reduces considerably the duration of the disease.

The existence of open tuberculosis is not a contra-indication to its use. In the cases which came under observation by Krummenacher there was, on the contrary, a most favorable influence and none of his patients suffered the least harm from the fact of undergoing the treatment. After the disappearance of the inflammatory exudate there was a rapid recovery of strength and of the general condition without one morbid symptom showing itself in any other organ. In particular, there was no re-awakening of a tuberculous affection in the lungs.

Some relation exists between the quickness of the action and the chronicity of the disease; the affections react very much better the younger they are.

The presence of adhesions is an obstacle to the quick action of calcium chloride, and calls for the use of large doses and prolonged treatment. It is important, however, not to prolong the administration of calcium beyond five or six days, even if the therapeutic effect has been insufficient. Prolonged administration may, indeed, cause trouble in the shape of headache, anorexia, and unstable temperature. It is better in such cases to give up the treatment altogether for an interval of some days.

Professor Blum gives a minimum dose of 15 g. in the twenty-four hours, and such doses very seldom cause vomiting or diarrhea. If the dose succeeds in promoting diuresis by the third day, this amount is cut down by half. If, on the other hand, increasing doses have not given any result by the fifth or sixth day, it is preferable to leave off the treatment at all events for some days.

It appears to be necessary that the kidneys shall be in good working order for this treatment to be instituted. It is applicable to the great majority of serous inflammations, but has a truly remarkable effect in the serous effusions of the pleura.—(*Clin. et Laborat.*, May 30, 1923.)

The Emetic Cough of the Tuberculous

Marfan says these patients cough because they eat, and they vomit because they cough. In order to overcome this sometimes painful happening, it is necessary to bring about some sort of preventive anesthesia in the stomach.

The soothing matters should be taken after the meal some time before the probable appearance of the cough. Small pieces of ice swallowed in pillular form succeed. Chloroform water is equally effective, from four to six tablespoonfuls a day, two spoonfuls of water being added to each in order to prevent the sensation of burning in the stomach. If chloroform water fails, which is the exception, either bromoform water or menthol may be used. The latter is prescribed as follows:

Menthol 0.10 to 0.20 g.
Gum julep 150 g.

Two or three tablespoonfuls after meals. The bottle must be well shaken.

Morphine hydrochloride:

Cocain hydrochloride of each 0.05 g.
Water 150 g.

From 3 to 6 tablespoonfuls a day.

This last solution, however, risks decreasing the appetite and should only be resorted to when other methods of treatment fail. Another drug is commonly in use, the administration of bismuth one hour before taking food.

Bismuth subnitrate 5 g.
Powdered belladonna 0.005 g.
for 1 packet. Two to be taken in the day.

Food should be chosen which does not call for much stimulation of the gastric mucous membrane—milky foods, well-cooked soups, thick bouilli, scrambled eggs. Later may be taken boiled fish, tender boiled chicken, and later still, purées, green vegetables, cooked fruit, lean ham, and finely minced meat.

Short inhalations of oxygen after meals have been found of good effect, and chloroform water may be taken at the same time.—(*Jour. des Prat.*, June 2, 1923.)

Enlarged Tonsils and Adenoids

B. V. Dunn of England suggests this treatment in slight cases which present no symptoms but which are discovered in the course of a routine examination. 1. The teeth must receive attention. Even though there is no obvious decay, the parents should be advised to put their child into the hands of a dentist for regular routine examination and treatment.

2. The child must be educated in nasal hygiene, especially in regard to proper blowing of the nose. Many children may be observed to apply the handkerchief to the nose and then sniff so that the mucus is carried back into the rear of pharynx instead of outwards to the receptacle. Each nostril should be blown separately while the other is compressed with the finger.

3. Colds and the exanthemata must receive thorough and adequate attention from the outset.

4. A diet rich in protein—especially meat—must be insisted upon.

5. Nasal breathing must be inculcated, if necessary by means of respiratory exercises, though suitable clothing and fresh air are usually sufficient to initiate the practice.

6. The child should be examined every six months, so that any further development may be appropriately treated.

Cases of moderate severity in which there is a slight degree of nasal obstruction and the tonsils are moderately enlarged. The above measures should be adopted and in addition:

1. Change of air to seaside or a high altitude.
2. Medicinal measures such as iodide of iron, extract of malt and cod-liver oil.

3. Local treatment.

(a) The Tonsils.—When these have settled down to a definite enlargement of big dimensions local treatment is of little avail, but the following may be tried in this group of cases:

Solution of perchloride of iron. This may be prescribed as a gargle; or it may be painted on the tonsils twice daily; or it may be given as a medicine "to be gargled before swallowing." The swallowing act brings it into closer contact with the tonsils, and in addition the iron is of value medicinally.

Mandel's paint helps to lessen the liability to recurrence of tonsillitis and thereby favors a reduction of enlargement.

(b) The Adenoids.—The associated catarrh is frequently benefited by the use of alkaline lotions which the child is directed to "drink through his nose and spit out through his mouth." Such lotions usually consist of the bicarbonate, the baborate and the chloride of soda, gr. v. to x. of each to the ounce of water, with or without the addition of glycerin.

Another method is to lay the child on his back and drop into the nares a few drops of the following:

Iodin gr. $\frac{3}{4}$
Camphor gr. i
Menthol gr. i
Liquid paraffin $\frac{5}{8}$ i

An atomizer containing oil of eucalyptus and liquid paraffin, with or without menthol, or liquid iodox may be used for the same purpose.

4. Nasal Drill.—The children are taught as a class to blow their noses, one nostril at a time, into pieces of soft paper. They are then given a pinch of snuff composed of menthol in a soap basis. This is not sniffed up, but lightly flicked against the nasal septum. Sneezing is thereby induced. The nose blowing is resumed. The sneezing and nose blowing are then continued alternately until the discharge from the nostril ceases or becomes scanty. Lastly, nose breathing exercises are performed. Although Hickling was able to report an improvement in the general condition, carriage, and health of the children, there was little or no effect on the size of the growths, but she thinks the method might prove of service in slight cases, cases after operation, and cases inoperable on general grounds, as a prevention to the disorder and as a post-operative procedure.

Cases presenting chronic nasal obstruction with any or several of the following accompaniments:

1. Mouth breathing during the daytime.
2. Eustachian obstruction—either from catarrh or pressure of the growth.
3. Commencing opacity of the tympanum or any middle ear complications.
4. Rheumatic symptoms associated with chronic tonsillitis.
5. Frequent attacks of tonsillitis or peritonsillitis.
6. Chronic nasal catarrh or rhinitis.
7. Chronic enlargement of the cervical glands.
8. Commencing thoracic deformity.
9. Ill-health definitely due to septic absorption from the tonsils.

10. Cases of Group B which do not improve under treatment. In this group surgical intervention is definitely indicated. The method and extent of operative procedure which should be followed is:

1. When nasal obstruction is pronounced, the adenoids should be removed with the curette.
2. When the tonsils are enlarged and are causing mechanical difficulties in speaking or swallowing they should be snipped off level with the faucial pillars.
3. When the tonsils are chronically inflamed or are acting as a gateway of infection to other parts of the body they should be enucleated.
4. The method of choice for operation in children is enucleation by the guillotine. A general anesthetic is advisable, and ethyl chloride is suitable in expert hands.
5. The method of choice for operation in adults is enucleation by dissection. It can be well performed under local anesthesia.

D. Cases in Group C in which operation is contra-indicated on account of cardio-vascular diseases, blood diseases, enlargement of the thymus, etc.

These cases should be treated as in Group B, and in addition:

1. X-ray treatment may be tried. Stewart found, in the treatment of seven cases, that although the tonsils do not, as a rule, gain their normal size, the decrease in size is sufficient to dissipate obstructive symptoms and conditions dependent on the septic state of the tonsils are relieved. Murphy employed the method in 46 cases and in all but four cases a decided shrinkage of the tonsils was noticed in two weeks.

2. Administration of lymph gland extract. Hugh Ashley, working on the hypothesis that the enlargement is due to an attempt on the part of Nature to supply a deficiency in the other lymphoid tissues of the body, administered lymph gland extract

in 5 gr. doses to thirty cases, and says that all the cases improved—snoring disappeared and the tonsils diminished in size.

3. The application of alkaline caustics, of which London Paste (originally introduced by Morell Mackenzie) is probably the best. The paste consists of slaked lime and caustic soda, equal parts of each. It is powdered and kept in a well-stoppered bottle until required, when about a third of its weight of water is added to form a thin paste. It may be applied, after cocaineization, by means of an applicator such as that of Irwin Moore.

4. If the above methods fail, the galvano-cautery may be applied. St. Clair Thomson says that from six to ten or twenty sittings are required, and that adhesions are liable to result.—(*The Practitioner*, Sept., 1923.)

Tetanus Neonatorum

Paul L. Parrish, M. D., Brooklyn, reports a case in a female 15 days old.

Tetanus has been known since very early times, being familiar to the ancients following wounds, and nearly always being fatal. The tetanus bacillus is frequently a saprophytic inhabitant of the intestinal tract of the domestic animals and is thus common in soils which are under cultivation. It appears to thrive better in some localities, as on Long Island, along the Hudson valley, and in some of the Southern states. The bacillus enters the system through any wound or abrasion; it is probably elaborated locally and has a strong affinity for nerve tissue; it is probably like rabies taken up by the end plates and passes along some substance within the nerve sheath to the central system.

Anders, in 1905 and 1906, made the last comprehensive study of the incidence of tetanus neonatorum, and published his results in the *Journal A. M. A.* He found that there was a high mortality among the negro babies of some of the Southern states. In some localities it was second only to tuberculosis as a cause of mortality. Dr. Grier, writing in 1860, states that half the negro babies in his locality in Mississippi died of tetanus neonatorum. In Iceland and in some of the islands near Great Britain, in former times the mortality was very high. J. Clarke, writing in 1782, states that in the Dublin Lying-in-Hospital, out of 17,650 cases born, 1 in 6 died. Of these, 19 out of 20 died of tetanus neonatorum. At the present time, in our neighborhood, the disease is very rare. Dr. Riegelman, the head of the Department of Health in Brooklyn, in charge of midwives, says she has not heard of a case in two years. It is possible that cases die from this disease which are certified as infantile convulsions, etc.

The incubation period is variable but is usually about nine days. It has been reported by some authorities as long as one year. It is supposed that the spores may lie dormant for very long periods. The shorter the incubation, the higher the mortality as a rule. It has been divided by some writers into three forms: the acute, the chronic, and the local form.

The varieties are usually named from the cause; idiopathic of unknown causation, suture tetanus, Fourth of July and shot wound, antitoxin, vaccination, and neonatorum.

We know that tetanus neonatorum can occur only when one who dresses the cord fails to use the proper care in being clean and in using clean instruments and dressings, so that it is an entirely preventable disease.

The onset may occur at any time after birth but usually at the time the cord comes off or shortly after. The first symptoms may be inability to nurse, due to spasm of the jaw muscles, lock jaw or trismus. Soon afterwards the rigidity may spread to the muscles of the neck and back causing arching of the back. Convulsive attacks supervene and respiration may be seriously hindered. The convulsive attacks usually become more severe and the child usually dies from exhaustion quickened by inability to take food.

The utmost precautions should be taken to remove every source of irritation which may bring on a convulsion. The room should be darkened; the infant should be handled as little as possible. If the child is unable to take nourishment through the mouth, it may be given food through a tube passed by way of the nose. The bladder should be watched for possible retention of urine. The convulsive attacks are best controlled by the administration of chloral and bromide. Grains one-half to one of chloral and grains five to ten of bromide may be given, preferably by rectum, once an hour, or as often as needed to control the convulsions. Chloroform may have to be given. Local treatment of the stump should be instituted. The stump should be cleansed and antiseptic dressings applied. Powdered antitoxin may be sprinkled on the wound and the serum may be injected into the local subcutaneous tissue.

As soon as the disease is suspected or diagnosed, serums should be given. Park has suggested the dose of 2,000 units to each 10 pounds weight. It can be repeated once in 12 hours as needed. The best results are obtained by intravenous or intramuscular

injections, or by injection into the spinal canal, or into the ventricles. The least result is obtained from subcutaneous injection.

Case Report. Baby Rose W., age 15 days, was admitted to St. Christopher's Hospital, September 25, 1920. She was a normal, full-term child, delivered by a midwife. Nursed by mother once in three hours.

Nine days after birth she awoke at night with a fever, she became stiff and her jaws locked. Since then she has remained feverish and there have been frequent generalized convulsions. At times the jaws are locked. She has lost weight and is very weak. The cord stump is very dirty and there is a large red area surrounding it. Temperature 104 deg., pulse rapid and weak. She is somewhat cyanotic and is very rigid. Reflexes unobtainable on account of rigidity. Fontanel is depressed. Eyelids shut tight. When opened there is seen slight nystagmus. Jaws are tight shut and cannot be opened without much force; there is some foaming at mouth. Heart and lungs negative, except that respiration is interfered with by frequent convulsions.

Blood count showed 22,600 whites with polys. 39, and small lymphocytes 61 per cent. Von Pirquet test, negative. Spinal puncture revealed very slight pressure; count not done as contaminated with blood. Globulin doubtful. Smears from punctured vesicle on cord stump negative for tetanus as were cultures from spinal fluid. There were many streptococci and staphylococci in smears from stump.

Shortly after admission, 3,000 units of tetanus antitoxin was given by the longitudinal sinus. The stump was dressed antiseptically. On the 26th, she showed some improvement and was able to take some food with a Breck feeder. She was given 1,500 units intraspinal and 1,500 intramuscularly. On the 27th, about the same, she was given 1,500 units intramuscularly; spinal puncture gave a dry tap. On the 28th she was still very rigid but taking nourishment better; 1,500 units in the muscle. On the 30th, still rigid but temperature down; 1,500 units into the sinus. October 1st, slightly less rigid, 1,500 units. On October 2nd and 3rd each 1,500 units. October 4th marked general urticarial rash. October 10th slight voluntary movements first noted. Slight rigidity still persisted till November. Temperature 104 deg. on admission, touched normal on the 6th day.

Her feeding at first consisted of modified mother's milk, later whey and later a modified milk formula. Medication: Chloral grains 1, and bromide of soda grains 2, once an hour, or as needed. Antitoxin 17,500 units.

It seems safe to say that this was a case of tetanus neonatorum despite the failure to isolate the organism and that it was cured by the use of antitoxin. (*Arch. Ped.*, April, 1923.)

Surgery

Traumatic Rupture of the Normal Spleen

Emil C. Robitshek of Minneapolis says over five hundred cases of ruptured spleens have been reported since the fifteenth century. At that time Celsus first described it. Morgagni, in 1765, collected eighteen cases of the subcutaneous rupture of the spleen.

The youngest patient on record in whom a ruptured spleen due to trauma was found was a "new born," dropped on the floor in a precipitate labor. The oldest patient on record was aged fifty-seven, the injury resulting from a kick in the abdomen. There is a much larger number of these injuries in children and young adults than is ordinarily supposed. The decrease in number with age has been ascribed by one author as being due to the atrophy of the spleen. In this series of 128 cases, including seven reported by the author, the following distribution of ages was found:

Age	Number of Cases
1 to 10.....	23
11 to 20.....	37
21 to 30.....	29
31 to 40.....	15
41 to 50.....	8
51 to 60.....	4
Not recorded	12

From the above data it can be seen that one-half of the cases occurred in children and young adults up to twenty years.

Out of 127, 104 or 81.8 per cent. occurred in males and twenty-three or 18.1 per cent. in females. This preponderance of injuries in males is obviously due to exposure to hazards.

The spleen is perhaps the most friable of all the abdominal visceral organs. Its rather superficial and somewhat fixed position, under the ribs, its tendency both physiologically and

pathologically to engorgement, its fragile texture and thin capsule, are reasons often given for its liability to rupture when traumatized. All forms of external violence may produce a laceration. As is well known, in the majority of cases it is the rapidity and velocity of the blow, rather than the size and shape of the agent causing the injury, that is of etiological importance. The more rapid the blow, the less time the abdominal muscles have to place themselves on guard in order to protect adequately the underlying organs. While a slight trauma may and has produced these injuries, trauma of the normal spleen is usually due to severe inflictions of a degree sufficient to produce other accompanying injuries. In this series we found the most common etiological factors in the order of their frequency to be as follows:

	Number	Per Cent.
Fall	43	34.1
Run over	35	26.9
Blows	23	18.2
Crush	10	7.9
Strain	1	0.7

In one case a fall of only seven feet was necessary to produce symptoms. In another case, cited by the same authors, a cricket ball pitched by a boy of ten years was the offender.

The symptoms in general are those of internal hemorrhage. The rapidity of the onset and the degree of bleeding vary greatly in different cases. In some death ensues within a very short time, on account of the rapid and great loss of blood; while in others small subcapsular tears and clotting postpone alarming symptoms for hours or even days. Shock, occasionally mild, more often severe, with its accompanying symptoms of subnormal temperature, rapid thready pulse, pallor cold perspiration, clammy skin, and falling blood pressure, is usually the first manifestation.

Pain is the first and chief complaint of the patient. It slowly increases, frequently is localized in the splenic region, but often throughout the whole abdomen, and is intensified by bodily movements, deep respiration, or cough. Later the patient complains of thirst, and shortly thereafter of air hunger. One is immediately struck by the pallor, the blanched lips, and the colorless appearance of the mucous membranes. The facial expression is anxious, and soon the subject becomes restless. Temperature may at first be subnormal, later rising above normal. Respirations soon become rapid, and are usually shallow and thoracic.

The pulse is at this time a very important sign, diagnostically as well as prognostically. Increasing tachycardia goes hand in hand with continuous loss of blood, and is a significant sign. The board-like rigidity of the recti muscles is of no less importance. With few exceptions its presence (constant and marked), was emphasized by every author. Like the pain, it may be confined, more marked over the left rectus muscle and region of the spleen, or it may be and often is present over the entire abdomen. Tenderness is here always found associated with pain and rigidity.

Another very important and frequent sign is shifting dullness in the flanks. This is dependent upon the amount of free or clotted blood in the abdomen. Vomiting is occasionally present, and when so is not of the recurrent type as seen in rupture of the intestine. Distention of the abdomen when present is not usually marked. Following is the distribution of signs in this series, including the author's seven:

	Number	Per Cent.
Rapid and increasing pulse rate.....	73	57.02
Tenderness of the abdomen or flanks....	71	55.4
Pain, local or general.....	67	52.3
Rigidity of the recti.....	65	50.7
Flank dullness	61	47.6
Pallor	51	39.8
Chock	44	35.9
Vomiting	35	27.7
Dyspnea	15	11.7
Restlessness	13	10.1
Pain in the left shoulder.....	10	7.8

In general the predominating symptoms in this condition are those due to hemorrhage.

No symptoms is pathognomonic. Because of this a positive preoperative diagnosis is rarely possible. It should, however, be made provisionally, and early, after a careful and deliberate consideration of all the facts connected with the particular case, such as the history of the injury of the upper abdomen, particularly of the left side; shock; abdominal pain, increasing in intensity; marked resistance and rigidity of the abdominal muscle with tenderness, more especially over the splenic region, with or without dullness in the flanks and other signs of hemorrhage. The absence of bruises, abrasions, discolorations, and ecchymosis should never mislead

one, nor should the diagnosis be allowed to be obscured by other frequently accompanying severe injuries.

Among such as found in this review may be mentioned nine in whom fractured ribs were found, seven sustaining fractures of other bones, five with accompanying kidney injuries, four with retroperitoneal hemorrhage in the left kidney region, two with liver lacerations, two with ruptures of the pancreas, one with a contusion of the pancreas, two with injuries to the lungs and resulting hemothorax, one with a laceration of the stomach, one with a rupture of the aorta, and many others with minor bruises, contusions, and scalp wounds.

Up to the end of the eighteenth century, all cases of rupture of the spleen were considered absolutely fatal. Sutton showed that occasionally this is not so. He reports having seen in the museum of the Saint Bartholomew Hospital the spleen of a woman who had previously fallen from a window and had broken her femur. Ten days later at post-mortem it was shown that her spleen had been torn across and the torn surfaces had united. There was an encapsulated collection of blood around the organ. He likewise described another case, where a man had the left side of his abdomen ripped out by a boar, causing the spleen to protrude. The attending physician could neither make out the nature of the organ, hanging out of the wound, nor replace it. Nearly one month later the wound healed, leaving the spleen on the outer surface, in which condition it resembled a tam-o'-shanter cap. Another surgeon, who then saw the case, tied the vessels and removed the spleen. The prognosis depends in a large measure upon the time elapsed between the infliction of the injury and the proper treatment thereof, and is very often made more grave, as it was in our series, by other serious accompanying injuries. The cause of death is usually hemorrhage. Without surgical treatment, the mortality has been placed at 95 per cent.

In this series there were three without surgical treatment, all of whom died. In one the result was not stated. In the other 124, operated upon, there were twenty-seven deaths, or a mortality of 21.7 per cent. Splenectomy was performed upon 106 patients, of whom eighty-three or 78.3 per cent. recovered and twenty-three or 21.6 per cent. died. Fourteen were treated by tamponade (gouze packing), with the result that twelve or 85.7 per cent. recovered and two or 14.2 per cent. died. Of two treated by suture and tamponade combined, both died. One with suture and partial splenectomy recovered, and one with suture alone died. As the mortality incidental to this condition depends also on the time of the surgical treatment following the onset of the injury, as well as the surgical technic, the author has tabulated the results of this series as follows:

Relation of Time of Operation to Mortality

Hours	Operations	Recovered	Died
0-1	6	3	3
1-6	28	23	5
7-12	12	10	2
13-24	22	18	4
25-48	8	7	1
49-72	3	2	1
73-96	1	0	1
Days			
5-8	5	1	4
9-15	3	3	0
16-31	1	1	0
Not stated	39		

Too much importance should not be attached to the above data, however, for not only the technic and the seriousness of the accompanying injuries but also the condition of the patient at the time of the operation must be taken into consideration.

Treatment must first be centered upon the shock, in which state the subjects are usually found and rushed to the hospital. If treated with heat, morphine, transfusions, and fluids, the patient often shows at least temporary improvement. Prompt action is necessary. Watchful waiting, procrastination, hoping for a change for the better, under the guise of mis-called conservative or symptomatic treatment, imperils success. Loss of every hour now makes recovery less probable. It is better to operate a doubtful case and find perhaps only some slight injury than to permit the sacrifice of a life "by trusting to luck." In order to lose no precious moments, all preparations for operation should be made at once.

Local anesthesia alone should be the first choice; and, combined with nitrous oxide, the second. Transfusions of matched blood, if possible, or the intravenous injection of normal saline solution, should be given during or imme-

diately following the operation. Splenectomy, first performed successfully for traumatic rupture in 1893 by Riegner, has steadily gained favor, and is now universally recognized by most authorities as the standard treatment. Not only is it the most rational and certain method of stopping the hemorrhage but also the quickest. Suturing or tamponing of the spleen is not to be relied upon, as proper suturing compels the cutting through of the soft texture of the organ and thus prevents an approximation of the divided edges, with sufficient tightness to check the bleeding; while tamponing, which may be of value temporarily, leaves the insidious danger, upon its removal, of a recurrent hemorrhage (Daltou).

Given a case with the history of severe injury involving the left hypochondrium especially with the slightest indications of internal injury to the spleen, the author would advise an immediate exploration of the abdomen. Time does not permit a detailed description of the technic or splenectomy. —(Minn. Med.)

Tuberculous Abscess

Tubercle frequently affects the breast, and the commonest clinical type which is met with is when the tubercle forms a single hard mass, says D. C. L. Fitzwilliams, of London. This lump is rarely bigger than a hen's egg, though Alexander Miles reported one the size of a tangerine orange. In this respect the tuberculous mass is very like a chronic abscess. This mass may not be round but may be more or less the shape of the lobe of the breast that contains it. Such was the state of affairs in the case reported by Parsons in which—

A Spaniard of 38 had a swelling of the left breast of three months' duration, the swelling increased to a size four to five inches long by one to one and a half inches broad. It was removed locally with part of the pectoralis major. Recovery.

The mass is movable in the breast, and does not become attached to the muscle till late. Miles only had to remove a part of the pectoralis major in one of his series of cases. In the later stages the mass approached the surface and the skin becomes affected. Softening takes place, and the cold abscess discharges. When this occurs a sinus forms, and then for the first time there may be a suspicion of the true nature of the disease, for the tuberculous sinus is very characteristic in appearance. The skin is undermined for some way round the opening of the sinus, and has the typical bluish look which we all know so well in sinuses in connection with glands in the neck. As in ordinary chronic abscess the lump may remain growing slowly in the breast for a very long time, and thick walls form as the result of fibrosis, so that the mass may feel absolutely solid and be mistaken for a carcinoma. This likeness is heightened by the fibrosis causing retraction of the nipple, and the glands in the axilla being slightly enlarged. There is also in some cases a discharge from the nipple, and this may occasionally be bloodstained, which is rather calculated to make one take a more alarming view of the case.

The diagnosis is often made, after the operation, in the laboratory either by the examination of the pus or of the tissue. In a soft organ such as the breast, tubercle very rarely becomes cured, or only becomes cured after a long time with great destruction of the breast. One curious feature is that there is no recorded case of tubercle of the breast caseating, drying up, and calcium salts being deposited as when tubercle elsewhere becomes what we term cured. Usually the mass softens and comes to the surface and sinuses form, in some cases many sinuses form, and eventually large ulcerating surfaces may result. The author knows of no case on record in which recovery has taken place without the aid of surgery. But one is able to state that the surgical treatment of tubercle of the breast has much better results than the surgical treatment of tubercle in any other part of the body. Everyone knows the difficulty with which tuberculosis sinuses heal. In the breast they can be removed, abscess, sinus, origin and all; and healing by first intention may be the result. In dealing with a mass which before operation is mistaken for a carcinoma, an explanatory incision usually reveals the error. In these cases the whole mass should be removed and the wound closed, with the knowledge that in the large majority of cases the matter has been ended. In those cases in which the breast has been riddled with disease, the whole breast should be removed.—(Practitioner, Sept., 1923.)

Regional Anesthesia

Massive local infiltrations by weak, slightly toxic analgesic solutions have a large field of usefulness. The low toxicity stimulating and enduring action of procaine, when combined with adrenalin, enable one to use such large quantities of the solution that depression, toxicity and dehydration in the patient are combated at the same time that the anesthesia is produced. No known anesthetic is so safe in the greatly debilitated patient and in hemorrhagic or shock, the injection may render a blood transfusion needless. The amount of the solution that may safely be employed seems almost unlimited so that by a "shot-gun" injection, effective analgesia without exact anatomical localization is available to the surgeon of average skill. The injection of from one to three thousand mils of the ¼ per cent. solution of procaine containing 1:60,000, to 1:100,000 parts of adrenalin in Ringer's solution or physiologic saline is not only relatively safe, if blood vessels are avoided, but usually will materially improve the condition of the patient, and by stimulating elimination render the free use of narcotics and sedatives safer than would otherwise be the case.

An interilio-abdominal amputation skillfully conducted under local anesthesia with nerve-blocking is a revelation to any surgeon who does not realize the great field of local anesthesia. To facilitate intraabdominal manipulation, an associated heavy infiltration of the preperitoneal space about the wound is most valuable. As soon as the abdomen is opened, the finger or hand is gently introduced as a guide, the needle repeatedly carried down to, but not through, the peritoneum and 200 to 600 mils of the solution injected. By diffusion, this gives a desirable degree of splanchnic anesthesia.

In such acute infections as pneumonia, nephritis, peritonitis, with a sthenic patient, when the shortest operation with complete muscular relaxation and with the least manipulative exposure or protoplasmic disturbance is desirable. Spinal anesthesia is preeminent. In the depressed, exhausted, deeply toxic, dehydrated, starved, shocked, semi-comatose or intensely anemic patient, spinal anesthesia is dangerous and massive infiltration anesthesia with weak adrenalinized procaine solutions is invaluable. In view of the relatively slight danger from prolonged conduction or infiltration anesthesia, it is questionable if any operation requiring over two hours for its completion should ever be conducted under inhalation anesthesia alone.—(S. G. & O., Sept., 1923, 396.)

Abortive Cure of Pyarthrosis

E. Wohlaer thinks it remarkable that a case of metastatic streptococci pyarthrosis shows prompt deferescence and heals with complete preservation of function after but one puncture and irrigation.

History: Young man, aged 17, just recovering from furunculosis lost his balance and fell. The left knee immediately began to swell and ceased to function. Without visible injury of the tissues there was severe swelling, painfulness, a temperature of 40 C., clinically a typical case of severe pyarthrosis. 70 c.c. of pus containing streptococci was obtained by puncture. No improvement resulted; on the contrary, the swelling increased, temperature rose, the patient became worse. On the following day the inner and outer side of the joint was opened, emptied of a turbid flocculus exudate, and the joint irrigated with about 1 quart of rivanol solution, 1 per cent., 30 c.c. of this solution was left. The effect of such antiseptic chemotherapy was beyond the author's expectations. In five days of lytic deferescence, the pain disappeared practically immediately and there was a remarkable improvement in the general condition of the patient. There was no subsequent rise in temperature; 14 days after irrigation of the knee the patient got up and after two more weeks of medicomechanical and physical treatment the patient left the hospital with weight-bearing and flexion practically normal.

The method which proved so successful in this case was first advocated by Klapp after extensive experiments on animals. In a series of 6 joint empyemas he obtained very favorable results after one or more irrigations. In his experience acute inflammatory cases require the use of a local or general anesthetic for intraarticular injections. Haertel and Kishalmy also report enthusiastically on the results obtained in 12 cases of metastatic joint empyemas. In order to attain complete deferescence they occasionally employed further irrigations with saline. Beside Katzenstein, Rosenstein warmly advocates the extensive use of rivanol. Though in the majority of the cases measures, such as incision, and drainage will give good results, they generally entail considerable stiffness of the joint and the patient has to remain in bed for weeks. The conservative method has many advantages: it is less painful, function is fully preserved, the illness of the patient is shortened and the treatment is much less expensive.—(Deut. Med. Woch., Sept. 7, 1923, 1183.)